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Table of Contents.

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	Page.
ORIGINAL ARTICLES—	
Psychiatric Aspects of the Present War, by A. J. M. Sinclair	501
REVIEWS—	
Rehabilitation	514
Surgical Nursing	514
LEADING ARTICLES—	
The Nervous Disorders of Service Personnel: An Urgent Problem	515
CURRENT COMMENT—	
Fibrin "Foams", Fibrin "Films" and Their Use in Neurosurgery	516
A New Journal Devoted to Neurosurgery	517
ABSTRACTS FROM MEDICAL LITERATURE—	
Medicine	518
BRITISH MEDICAL ASSOCIATION NEWS—	
Medico-Political	520
Additions to Victorian Branch Library	520
POST-GRADUATE WORK—	
Course in Gynæcology and Obstetrics at Sydney	521
THE ROYAL AUSTRALASIAN COLLEGE OF PHYSICIANS—	
Examination for Membership	522
CORRESPONDENCE—	
The Nutritive Value of Ice Cream	522
Wheat Breakfast Foods	522
Preventive Medicine	522
Non-Preventive Medicine	523
Freedom of Choice of Doctor	523
Penicillin	523
The Fee Principle and Medical Organization	523
AUSTRALIAN MEDICAL BOARD PROCEEDINGS—	
New South Wales	524
MEDICAL APPOINTMENTS	524
OBITUARY—	
Arthur Joseph Mackenzie	524
Clive Nigel Smith	524
BOOKS RECEIVED	524
DIARY FOR THE MONTH	524
MEDICAL APPOINTMENTS: IMPORTANT NOTICE	524
EDITORIAL NOTICES	524

PSYCHIATRIC ASPECTS OF THE PRESENT WAR.[1]

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"Il est plus nécessaire d'étudier les hommes que les livres."
(Duc de Larochefoucauld, 1613-1680.)

THE mental stability of the individual is measured by his ability to live in harmony with his environment. This essay reviews the psychiatric disorders of one thousand soldiers who, in various theatres of war, failed to remain stable when faced with the changing environment of mass conflict. In some of these men, mental adjustment in civil life had appeared to be secure, but became inadequate under the stress of war; in others it is clear that psychological maladjustment had existed prior to enlistment.

The personality and emotional reactions of any individual are determined by biological and social factors, which having their beginnings in racial history, operate through every moment of existence. As the individual grows, his responses to the sea of impressions about him are controlled by the nature of the impression and by the particular type of response which heredity and previous experience condition in him. Any attempt to review the determinants in the formation of the personality would be difficult and not entirely relevant. It suffices to mention the tremendous influence of heredity, physical constitution, and physical disease; the loves, hates and frustrations experienced during the richly receptive period of childhood; the effect of social contact in the school period, and the manner in which it is handled; the educational level; the effects of habit and social customs in the class to which he belongs; his relationships with his family and the outside world; his habits, hobbies, attitudes and beliefs. With the impact of puberty comes the first main cross-road, where the misguided or ill-founded personality may disintegrate, and in this disordered state, wander in the unsubstantial land of the psychoses.

Early adult life, bringing with it the necessity of making a living, entails the maintenance of effort, the urge to struggle, the desire to succeed, the wisdom to tolerate. Success depends on the capacity for perceiving, associating and responding along lines which will best achieve a known purpose. In one or two of these or similar attributes, the incipient neurotic may be deficient. He may be forced by circumstance to earn his livelihood in a social system which is inadequate, tyrannous, or unsettled by conflict within itself. These are, briefly, the psychological hazards round which the soldier may have passed successfully or unsuccessfully prior to his enlistment.

The mass experience of war brings to the soldier many new difficulties, while not entirely relieving him of the old. Actual combat may formulate aggressive and sadistic tendencies which were previously latent; it may induce or reactivate feelings of guilt, which now centre round the actual fact of killing. Modern mechanized warfare presents the menace of death or mutilation to an accompaniment of noise and dreadfulness without any precedent. The maintenance of a high degree of technical efficiency, under conditions of tension which never confronted the yeoman with a long bow, induces profound physical and mental fatigue. The general fortunes of war, swinging as they did in favour of the enemy in the first two years of conflict, together with the necessity of fighting with unequal arms, hampered our troops in successful aggressive and retaliative action.

As well as these gross phenomena, which are encountered only in the front line, there are numerous problems of adjustment which the soldier must face from the time he first dons uniform. He enters a new society in which numerous human contacts are rapidly forced upon him, and in which he must establish a satisfactory relationship with his fellows. He must preserve essential aspects of his own individuality, and yet merge others into the common individuality of a well-integrated herd. This involves the severance, in part at least, of relationships with his family, which to the emotionally dependent man may have been an essential protection. The transfer of allegiance to a military authority, and subservience to a creed which may not appear vital or well-defined at the time, may result in an attitude of resentment or apathy. Boredom, constriction of intellectual interests and increased physical demands are hurdles which the soldier must negotiate. At times, there is uncertainty and

[1] This essay was awarded the Stawell Prize, 1943.

insecurity. Often, there is the factor of sexual deprivation. An acceptance of all these new conditions, with a resultant radical adjustment in the daily life of the man who enlists, is obviously essential. All this may perhaps suggest that the possibility of remaining stable under war conditions is small. In actual fact, this is not so, since neurotic illness is found to affect less than 5% of the army population. This is proof of the incredible power of man to accept and to adapt himself to changes of considerable magnitude in his environment. Such adjustments are, in many cases, aided by the measures constantly employed by army authorities in maintaining morale, whilst some actually find that a psychological need is filled by the new experiences and varied features of war.

It must be stressed that neurotic illness in the army, even though its incidence is relatively small, is well worthy of close attention. In the unit it is an infectious disorder which may rapidly spread and devastate efficiency and morale. In the individual, it may result in protracted suffering, and perhaps most importantly of all, may develop in the soldier irreversible emotional and personality disorders.

The Rôle of the Psychiatrist in Army Medicine.

The position of psychiatry in war medicine should be defined. In the Australian medical services the psychiatrist is called a physician. Until quite recently there was no psychiatric unit so-called, and no army psychiatrist so-named, attached to hospitals. The supply of psychiatrists in the army is by no means equal to the demand, which is for both fully trained psychiatrists and for physicians with an appreciation of the psychological causes and effects of war.

Let us consider the rôle of the medical officer who, though not specially trained, is capable of handling in some degree nervous disorder in soldiers. His task is best performed in the course of regimental medical duties. Such an officer is responsible for defining correct attitudes in the non-medical officers of his unit, and for teaching officers and men how most effectively to cope with their own emotional reactions. He must endeavour to adjust temperamental and occupational incompatibilities within his unit. Knowing the effects of inactivity, of boredom and of monotonous or unpleasant conditions of living, he may advise changes in routine; being conversant with the personal and family problems of his men, he may act when necessary as a buffer between them and the dispassionate army machine. Recognizing the danger-signals of failing emotional control in overworked or over-stimulated troops, he is in a position to advise necessary redisposition. In actual battle, urgent surgical obligations may fully occupy his attention. However, should time allow, he may successfully discriminate amongst those men who are sent back to him with the common label of "bomb-happy". He is in the best position to select from amongst these psychiatric casualties the man who needs a few nights' sleep, the man who requires blunt, firm handling, the man who breaks down in action for the first and perhaps the only time, and finally, the man with a psychological disorder which requires treatment in hospital. A regimental medical officer who succeeds in these respects earns for himself a position in the army which has its counterpart in civil life in the efficient and trusted general practitioner.

Useful psychiatric work may also be done in a field ambulance or a casualty clearing station should the nature of the campaign permit of retention of patients for a few days to a week. Simple measures of rest, feeding, sedation and even superficial psychotherapy may enable some men to be returned to their units. A psychiatrist in such a unit in the Tobruk area was able to return 40% of his psychiatric patients to their former duties.

We now come to the skilled psychiatrist, who may function in an advisory capacity at enlistment depôts, in any hospital unit, or on medical "boards". I am unable to speak from personal experience of the work done in the selection of recruits. The following brief remarks are therefore merely impressions, formed as a result of observing the subsequent behaviour of troops. It would seem that an important function of the psychiatrist at a recruiting centre is to ensure that no man who is mentally unequal to the task of being a soldier should be accepted for service. At the same time, there are dangers that, in a too exhaustive pre-enlistment psychological examination, potentially useful men will be excluded. The object of a psychiatric "board" at enlistment should be to exclude the mental defective and the psychopath. Any man who has shown unequivocal evidence of nervous breakdown is a doubtful "investment" for the army. The question of previous head injury in the case of a recruit is also important. It is not suggested that previous head injury with unconsciousness produces organic brain changes which would necessarily render the individual unable to cope with the physical and mental hazards of war. However, if the subject of head injury complains of post-traumatic neurotic phenomena in civil life, it is most probable that when confronted with undue physical or mental stress as a soldier, he will revert to previous symptom-complexes, which had become quiescent during the post-traumatic phase in peace time. This point is emphasized here because, if the soldier has had a severe head injury in civil life and subsequently develops neurotic breakdown, the medical officer is seldom in a position to deny the possibility that a process of cerebral damage is acting either causally or secondarily in the content of the neurosis.

Organized mental testing by the available intelligence tests may be a function of the psychiatrist during the pre-enlistment or training period, and the examiner may save the army a considerable amount of time and money, which are otherwise wasted in attempting to train unrecognized mental defectives. There is considerable doubt, however, whether complicated and time-consuming forms of intelligence testing are necessary. An intelligent non-commissioned officer or officer-in-charge of training troops is in an admirable position to observe the behaviour and mental reactions of the troops, and is able to pick out those whose mental equipment is not sufficient for the task of being a soldier. It is my opinion that if such officers were encouraged to "weed-out" these men as soon as possible, and to refer them for medical investigation, a considerable amount of the work involved in military psychological testing would be unnecessary. Too often mental defectives and "misfits" are sheltered in the security of unskilled work, and subsequently enter the ranks of the "deadweight" of a unit. In action, such men become a burden and reduce available fighting strength.

These remarks do not apply to the psychological examination of potential commissioned officers. I have no experience of the actual results of testing, but I have had considerable experience in attempting to treat and dispose of the neurotic officer. There is certainly no place in any combat unit for an officer showing either incipient or frank neurosis. It has been a practice to find a niche for such men in base positions. I doubt the wisdom of this, as the neurotic officer may be able to effect limitations in his duties, and he commonly does so. Therefore, it is my opinion that, whatever the extent of intelligence testing performed on potential officers, it should be complemented by a searching personality assessment. It would be both interesting and advantageous to check the results of such examinations by the test of time.

As the experiences related in this paper are almost exclusively those encountered in war psychiatry, it is relevant to make some generalizations on the limitations imposed by warfare on the orthodox practice of psychiatry. It is possible for the army psychiatrist, whilst acting in quite good faith, to be a hindrance rather than a help in military medicine. This may occur if it is forgotten that his duty is to keep men fighting, as well as to care for those who are mentally incapacitated. Every patient whom he handles represents a potential unit of fighting power. Diagnosis must be thorough, but never leisurely, and often must be made on clinical acumen rather than on the result of special investigations, which may be impossible or too time-consuming to undertake. Once it has been decided that no organic basis is probable, treatment must be prompt, and, if at all possible, disposal immediately finalized. There is no time for the leisurely observation and study of the patients which are possible in civil practice. Completeness involves, not only treatment, but the assumption of responsibility for after-management. This includes implementing any principles laid down concerning extra-hospital employment or rehabilitation. The civilian psychiatrist is often aided in after-management by intelligent relatives, who assume some of the responsibilities for manipulating the environment in the best interests of the patient. He may be assisted by social workers or by the presence of the various bodies whose work it is to adjust social difficulties. He relies also on sending his patient back to a social system which, however defective, is at least settled. The army psychiatrist, on the other hand, returns his patient into a rude world peopled by men whose business is warfare. Therefore it is essential that, if the army environment of the patient is to be modified to suit his mental reactions, the medical officer must assume the responsibility of father, social worker and

trusted adviser. This can be done only by establishing contacts with units, and by written and personal consultation with those under whose care the soldier will come. If the army psychiatrist is content to discharge his patient from hospital and to turn him loose into the dispassionate army machine, his work is uncompleted, and it is likely that no one will remedy his defections.

Treatment in civilian psychiatry necessarily takes considerable time, the aim being to produce complete adjustment. Few cases are discarded as hopeless. It is considered a futile procedure to give placebos. Superficial psychotherapy is frowned upon by some authorities. It is a gross contradiction of one of the principles of psychiatry to explain what one knows to be an emotionally determined symptom in terms of a physical disability. I must confess to sins of omission and commission in all these things. It is not always possible to produce a complete adjustment in the soldier in a period of time economical to the army; so long as the soldier has been able to carry on usefully, he has been sent back to his unit. Many civilians, from sheer necessity, do precisely the same thing with or without the cognizance of their doctor, and in war the necessity is far greater. One should not persist with the hopeless or chronic case in the army. Immediate transfer to a base unit and prompt discharge from the service are essential, once the patient is fit for final rehabilitation or employment. The giving of placebos, or the interpretation of symptoms of mental origin as physical ones, is justifiable in conditions of mild superficial anxiety. In peace time, such a case is usually handled most effectively by the family physician, who dispenses quiet wisdom, sound advice and a "tonic". Such patients seldom reach a psychiatrist. Their handicaps and their hurdles are small ones. In the army hospital, with the temptation to develop precocious pseudo-specialism ever present, such problems are often unnecessarily referred to a psychiatrist. It is my opinion that, in such a case, the duty of the psychiatrist when consulted is not to embark on a long history-taking and programme of psycho-therapy, but rather to form a quick impression and, like the wise general practitioner, dispense reassurance, understanding, and medicine if the patient feels he needs it.

Another difference from the practice of civilian psychiatry lies in the peculiar relationship of doctor and patient. The civilian patient most often elects by pressure of symptoms to consult a psychiatrist of his own choice. On the other hand, it must be remembered that soldiers are not voluntarily labelled "psychiatric", and undergo treatment irrespective of their own desire. The structure of army discipline—and the term is used here in its broadest sense—depends on an officer-soldier relationship which it is unwise seriously to modify even in the medical corps. Therefore, rapport may be difficult to obtain, and progress is hindered by a conscious or unconscious desire on the part of the soldier to escape further service. However, it is an important duty of the army psychiatrist to attempt to return such men to service. Hence, difficulties in patient-physician relationship may spring up. On the one hand, the soldier may resort to misrepresentation and over-statement; the psychiatrist, on the other, may include in his methods rather more firmness and compulsion than is the ideal. It is not always easy to become the confidant, support and counsel to the mentally sick soldier, and yet avoid the rôle of fellow-conspirator.

These are the principles which were used as a basis of approach to the work. They are not presented as ideal, nor are they comprehensive. They were selected as the most practicable, and those most likely to effect the difficult compromise between the practice of conscientious psychiatry in the army and the necessity of keeping the maximum number of men in the field.

Medicine in the army is performed for the greater part in a field that is constantly changing. The exigencies of war, and the accommodation and disposition of medical units, make it impossible for one observer to follow prolonged illnesses to their conclusion. Each physician is limited to one phase of an illness—either the "acute" days near the front line, or the final days of recovery, convalescence and perhaps rehabilitation at a base hospital. Military psychiatric illnesses certainly come into this group of maladies, the full appreciation of which is often impossible to one observer. Should the psychiatrist be situated near a combatant unit in action, he sees and is impressed with the acute, dramatic and happily often transient psychological effects of modern warfare. As the site of observation of the patient moves back to quieter areas, though still remaining in an operational zone, his problem becomes more difficult of solution, and his treatment of necessity takes longer. At a base station, the physician is confronted with more settled and complex emotional and mental disturbances, which call for long, patient months of treatment, and involve, as a logical conclusion to treatment, the problems of medical reclassification or rehabilitation to civilian life. Finally, the future days of peace will bring a problem in psychological readjustment which will make expensive and severe demands on the nation, and which will point the need for an urgent reconsideration of the available facilities for mental and social adjustment in Australia.

In the following pages, there will be found, in more or less chronological order, an account of work in a forward unit, in a rear base area, and in a base hospital. It will be noted that changing locations and varying facilities bring about differing problems, necessitating alterations in the psychiatrist's attitude. The ever-present variables of the army, available time and facilities, have enforced differing expedients; and it is hoped to show, paradoxical though it may seem, that the most useful results of treatment were obtained in those areas where the enemy was close, time was short, and facilities were limited.

Experiences in Tobruk.

My experience of military hospital psychiatry commenced in North Africa, whilst I was acting as a physician in an Australian general hospital. Early in 1941 this hospital was established at Barce, which is approximately seventy miles from Benghazi. It followed the advance to El Aghela of British and Australian troops under the command of General Wavell. Barce is situated in a fertile agricultural area, and proved a peaceful haven after the trying experiences of the desert. There was for a time very little activity here, as the war situation had quietened to patrol activities many miles away. Psychiatric casualties arrived in small numbers, fifty in all, and the conditions were principally early anxiety states. Very little beyond examination and first-aid was possible, because within three weeks the enemy began that rapid advance which caused our troops to retrace their steps as far as Sollum. In April, our hospital rapidly withdrew to Tobruk, where it remained until October of the same year. During this period, Tobruk was invested by German and Italian troops. The general features of the siege are well known; but certain aspects of life in the area merit further description, as they are of significance when one discusses the psychiatric disorders which developed during that period.

The state of mind found amongst besieged troops is a peculiar one. It results from those features of siege warfare which give a sense of a position of isolation and insecurity from which there is no retreat. The tactics of the situation call for patient, defensive waiting; a general state of emotional tension is developed. There is a scarcity of accurate information regarding the course of events in other war zones, on the turn of which events the garrison depends for relief. Fact is supplanted by rumour, which in an atmosphere conducive to selective mental preoccupation, spreads with fantastic rapidity. Emotional tension cannot be diffused in recreational channels or relieved by adequate aggressive action. There is an intensification in the feelings of isolation from home contacts. All these general features peculiar to siege life were operative in Tobruk over a period of five months.

Our troops were for the main part "dug-in" in perimeter defence in a roughly circular area, the centre of the town being fifteen to twenty miles away. The nature of the desert was such that the dugouts were necessarily shallow and narrow, open at the top, or at the best, roughly covered with scraps of wood or iron. In most cases, it was impossible to stand up in them. In such wretched billets most of the men were forced to exist, whilst others lived in caves. There was none of the relative security and comfort of deep buttressed dugouts as described in France in the last war. In forward positions it was unsafe in daylight hours to move on the surface of the ground, on account of mortar and shell fire and "strafing" aircraft. The days were monotonous and uncomfortable indeed. Meals were most often taken cold from the tin. Water was short in supply and bathing was impossible. Flies presented a problem in hygiene which necessitated good discipline to prevent any outbreak of dysentery. Boredom could not be relieved in the daytime, and reading matter was scarce. At night sleep was difficult, because of the almost universal infestation of dugouts by fleas. Moreover, most combatant activity took place during the night. New positions were dug after daylight, artillery fire was of almost nightly occurrence,

and reconnaissance and fighting patrols were made under cover of darkness.

Our arms were in many ways unequal to those of the enemy. This was a factor of great importance in adversely affecting morale. The most important stimulus to acute reactions was the constant bombing attack, consequent on our complete lack of air support. Troops in forward positions were subjected every day to sudden dive-bombing raids with machine gun "strafing". Artillery and anti-aircraft units suffered particularly. Troops stationed in the town itself suffered even heavier attacks. The town buildings were grouped about the small harbour area, which was an important air objective. The essential work of unloading small craft was repeatedly interrupted by air alarm and attack. Ordnance stores and workshops were singled out for concentrated bombing. This ever-present menace from the air induced a characteristic emotional response. Normal fear and flight reactions were heightened, and men became sensitive to the sound of aircraft motors. Since all aircraft were hostile and brought with them the threat of destruction or mutilation, the sound of any motor became the chief stimulus conditioning the reaction of flight to safety. Men became preoccupied with listening, and such constant alertness made concentration on normal activities difficult. They became adept at picking up the sound of aircraft, and only by the development of a sense of community responsibility were they able to continue with their work until the actual onset of bombing.

The above may be regarded as the response to be expected from normal men. The abnormal or disabling response will be described in the discussion of the condition of "fear state".

From what has been written, one might reasonably expect the incidence of neurotic disorder in Tobruk to have been high. On the contrary, it was surprisingly low. Records show that the 250 patients who went through the department represented less than 3% of the total number admitted to the hospital. Accurate figures of the number of troops present in the area were not available; but as nearly as could be ascertained, there was one psychiatric casualty to 800 men in the field. This figure is extremely low. Such a low incidence may be accounted for in several ways.

Of great importance in this respect were the general measures directed towards the maintenance of morale. A regular mail service was maintained; a daily news-sheet was printed in the area; reconnaissance and fighting patrols were maintained, and these allowed of some aggressive outlet. Again, most of the men in the area gained some inspiration from the knowledge that they were comrades-in-arms in a common trial of resistance.

A further explanation of the low incidence of psychological illness is that in some patients, psychogenic disorders were masquerading under a somatic guise, such as minimal wounds with maximal disability, vague and worrying pains in the back, varicose veins and mild hæmorrhoids. Gastritis, vomiting, headache of obscure origin or the failure to improve sufficiently quickly after a minor fever also pointed to an underlying emotional illness. A large percentage of these patients did not receive psychiatric attention, and therefore would not be included in the figures.

Again, it might quite well be argued that delayed reactions would occur after the soldier was removed from his stressful surroundings. This is undoubtedly true, since one sees patients with anxiety neurosis who give, as the onset of their illness, the story of "carrying on" in Tobruk or Greece, without medical attention and without exciting much comment from their fellows.

The medical services undoubtedly played an effective part in reducing the numbers reaching hospital. For every patient admitted to hospital, at least one was retained and treated in a forward unit such as a regimental aid post, field ambulance or casualty clearing station. The amount of first-aid psychiatry carried out in these forward units was very valuable, as was evidenced by the maintenance of a high standard of morale. One field ambulance had the services of a skilled psychiatrist, who was able to retain men under his care for several days, up to ten. He succeeded in returning about one-half of his patients to front line duties.

Even if allowance is made for the presence of all these factors, the figure is still a low one.

Psychiatric casualties were admitted to a large Italian barracks in the town. As this building was almost daily in the target area for bombing, those suspected of a psychogenic disorder were drafted at once to a ward about a mile away. This was situated in an underground concreted tunnel, which was both airy and bomb-proof. Lighting was by hurricane lamp. Conditions were crowded and feeding was possible only at the entrance of the tunnel or by the beds, which were "double-decker" cots. A Bofors anti-aircraft gun was sited almost on top of the ward, and one quickly learned that the acoustics of a long concreted tunnel are admirable for the transmission of noise and of concussion air currents. However, the shelter was so patently a safe structure that, despite the noise, all patients when transferred to this ward immediately felt safe and relieved.

The entire psychiatric work in this ward was carried out at night, since this was the quietest period; general medical wards were tended during the day. It will be appreciated that this arrangement allowed only of unpretentious psychiatry, directed at essentials. The routine procedure was as follows. On the patient's admission to the ward, a full history was taken and a thorough examination was conducted. This included a detailed account of events leading up to the soldier's breakdown, with an exact account of what he considered to be the precipitating factor. The importance of this history cannot be over-emphasized. In a first interview, the patient is much more likely to give an unrationalized account of his fear, and to accept such an explanation later during therapy. A history taken months later from the same patient would often reveal discrepancies when compared with his earlier account. After the initial fear is forgotten or repressed, the picture is clouded by dramatization, by conscious or unconscious suppression of facts and by the appearance of somatic equivalents of the original fear or anxiety. Moreover, at this first interview, it is easier to evaluate the story that a soldier's neurotic disturbance dates from his being "blown up" or "buried". In almost every case in which such a claim was made, it was possible to elicit a history of previous sleeplessness or anorexia, and most men would admit that, for some time prior to the accident, they had felt a growing incapacity to stand up to stress. The final dramatic event, such as the nearby explosion of a bomb, had shattered the patient's remaining control and served as a focusing point, which enabled him to dramatize his symptoms and to retreat with honour from an intolerable situation. Many men gave a history of unconsciousness following an explosion, and attributed their condition to the effects of the "blast", assuming that some brain damage must have resulted. Critical inquiry, however, revealed unequivocal evidence of cerebral concussion or contusion in only eight cases. A blast effect was accepted as causal only when one or more of the following features was present: retrograde amnesia, a short period of unconsciousness followed by a severe headache, a long period of unconsciousness during which the patient was incapable of walking about or of finding his way, or finally, the presence of obvious signs of blast effect, such as bleeding from the nose, ears or lungs. The other states of unconsciousness claimed were assumed to be states of hysterical confusion or hysterical amnesia. Ideally, in all such cases in which there was a reasonable doubt as to the presence or absence of cerebral injury, a diagnostic lumbar puncture and examination of the spinal fluid for red blood cells and increase in protein should have been carried out, but circumstances did not permit of this.

The importance of keeping records of such facts obtained at a first interview was clearly confirmed months later, in Palestine and in Australia, when, as a prelude to "medical boarding", an endeavour was made to assess the severity of previous stress, and to mark the period of onset of the neurotic state. The importance of the record for repatriation and pension purposes is obvious.

Following the account of the actual psychiatric upset, the service history of the patient was investigated. Care was taken to note any history of neurotic disturbances which might have been present during the early period of training, or any previous evidence of personality defect which might have indicated the possibility of subsequent breakdown under stress. Such traits include solitariness, shyness, inability to make the required readjustments to army life, inability to assimilate training programmes, and evidence of paranoid trends or fits of depression. Pre-combat abnormalities were noticed in about 20% of patients. It is difficult to estimate their full significance, but there seems no doubt that early difficulties in mental adjustment to the mass experience of warfare are often but a prelude to a more complete breakdown when the war becomes actual and bloody.

A pre-enlistment history was next taken, attention being focused on evidence of nervous breakdown in civil life and of

previous neurotic symptoms without actual breakdown. Enquiries were made regarding previous head injury, and this was noted in 15 cases. A record of the patient's work as a civilian was made, and finally an assessment of family and childhood background was attempted. Twenty-five showed evidence of unsatisfactory adjustment in their civilian work, as demonstrated by inability to maintain a steady job, or of so-called "neurotic traits of childhood" such as enuresis beyond the age of eight years, night terrors or severe tantrums, nail biting, excessive shyness or childhood delinquency.

An estimate of the significance and relative importance of the past personal history in the ætiology of war neurosis will be attempted during the discussion of the larger series of patients examined in New Guinea.

An assessment of the patient's condition was made, following one or two interviews and after observation of his behaviour. In so far as the history was almost invariably taken solely from the patient, there was an unavoidable fallacy present in using this in forming a psychiatric judgement. Fortunately a knowledge of the existing conditions allowed of an estimate of the degree of war stress in general terms, but with regard to particulars, the patient's story had to be accepted. In order to offset this, allowance was made for the almost general tendency of the neurotic soldier to overstate, colour and dramatize the story of the precipitating stress, which in some cases was done quite consciously.

The clinical material fell into several groups. The main group comprised subjects with fear and anxiety states. Cases of hysteria, depression, personality and mental defects, together with four cases of psychosis, made up the remainder.

In Tobruk, particular interest was attached to fear reactions, since here it was possible to study not only the form found to occur in normal men, but also the exaggerated form which proved disabling. The former has been previously described. The latter occurred in men with less well-integrated personalities and in those men who had long-standing fear reactions dating from childhood. Such men found these fears reactivated and deepened. These less fortunate individuals were constantly over-alert. Every sound until investigated represented a threat. The noise of a motor vehicle in low gear, an idle whistle or such a remark as "here they are" or "it's on" paralysed activity and produced an overpowering desire to run. Appetite and concentration suffered, and in general, efficiency was reduced to the point of ineffectiveness. They slept badly, and some few complained that just prior to their falling asleep, brilliant pictures of violence or battle scenes would appear before them, and assume almost hallucinatory proportions. At any sound they would scramble out of bed, sweating, anxious and with palpitation. During actual attack, such men might become immobilized and inert like terrified animals. In some cases, after weeks of bombing stress, this condition of "frozen terror" became severe, the facies was fixed in haggard aspect, and a slow Parkinsonian tremor of the hands and wrists developed, quite unlike the faster and more irregular tremor associated with terror or anxiety. Other such men became confused or uncontrollable, and would rush about aimlessly, often endangering their lives. Weeping, yawning, spontaneous micturition and vomiting occurred in a few cases.

> One soldier with a wound in the neck, which was progressing satisfactorily from a surgical point of view, had a rather unusual reaction. Forced to lie supine and helpless in bed during an attack, he developed severe palpitation with tachycardia, and the impact of the apex of the heart was audible two feet away. After several minutes, he lost consciousness, and became pallid and "sweaty", with a fast, weak pulse—in short, he presented a picture of acute surgical shock. He recovered in a few hours.

About 60 men showing the above type of reaction were seen and their conditions were grouped under the term "fear state". This label is, of course, an artificial one, and has no implication as a psychiatric entity. It refers particularly to the exaggerated normal fear reaction just described; it differs from the morbid fear in true anxiety states, in that the original fear-producing stimulus is present as an actuality each and every time the reaction is evoked. It is noteworthy that in the case of a number of men with more frank anxiety states, their illness commenced with a fear of present realities, but later developed into morbid fear and introspection and the common somatic equivalents of anxiety. The name "fear state" was chosen in order to preclude any idea that the patient was suffering from any more than an exaggeration of a physiological response, and to avoid any suggestion of organic change implied by the terms "shell-shock" or "bomb blast". In addition, the use of this term provided a good starting-point in subsequent discussion with the patient on the significance of fear reactions in general.

The other equally large group of casualties comprised those suffering from the true anxiety states. The symptoms did not differ from those seen in civil life, except in so far as somatic equivalents were more common, and of these headache and gastro-intestinal upset predominated. Somatic symptoms included frequency of micturition, emotional diarrhœa, vomiting, sweating, difficulty in breathing, emotional fatigue and weakness, giddiness, trembling and vague limb pains. Anorexia, depression and a tendency to endless futile introspection were common. Palpitation was present in both fear and anxiety reactions; but that condition of precordial pain with dyspnœa once referred to as "D.A.H.", "neuro-circulatory asthenia" or "soldier's heart" occurred in but six cases, and was regarded as a symptom of anxiety. The question of cardiac symptoms in anxiety states will be reviewed later.

Hysteria was relatively uncommon; it was seen in only 25 patients. One was surprised that paralyses and massive somatic dissociations did not often appear. Hysterical disturbances of consciousness were the commonest and took the form of "black-outs", fugues and amnesias. Aphonia also occurred. The few paralyses which were encountered were amenable to massive suggestion; but, as in all cases of hysteria, the basic personality of the patient was unchanged, and these men were not regarded as likely to remain efficient under conditions of stress.

True endogenous depression occurred in but one case, and there was evidence that the patient had sufferent previous manic-depressive episodes. Reactive depression, however, occurred commonly as part of the picture in fear, in anxiety or in an hysterical background. As has been mentioned previously, in some cases of acute "fear state" considerable motor retardation was present. The thought-content in such men was depressive in nature, and surrounded ideas of failure in duty and general hopelessness concerning the future. There was no evidence of delusional ideas of guilt or inferiority.

Psychopathy, or as it was termed when in less obvious degree, "personality inferiority", was uncommon. This was no doubt due to a "weeding-out" process of the unsuitable soldier prior to the campaign. The problem of the inadequate personality appears to be mainly one of base area troops; this will be discussed later.

Treatment in general was necessarily limited to very simple measures. Adequate rest was given for some days. Only a sparing use of sedative was required. The nature of the ward was such that most men enjoyed security for the first time since entering Tobruk, and they usually slept for two or three days. For those with acute fear, discussion and explanation were then undertaken along simple lines on the basis of the necessity and usefulness of the normal fear reaction both in animals and in man. Patients were taught how to recognize similar reactions in their comrades still remaining on duty; to watch for the transient pallor, the temporary lapse in normal speech, the apprehensive gesture and the other signs shown by a man when struggling hard to master an impulse towards flight. It was explained also how the "devil-may-care" attitude, or the noisy jocularity of the soldier with "no nerves" was a guise hiding the same feelings which assailed the patient. They were invited to watch the behaviour of some members of a nearby anti-aircraft unit, who during action behaved with a supreme calm and apparent fearlessness, but who, after the action had ceased, showed pallor, sweating, tremor and jerky speech. Every attempt was made to represent "fear state" as a normal emotional one, similar to other emotional reactions such as sorrow or rage—a temporary state, not a weakness or a disease. During discussion, the patient was encouraged to talk about his fears in the belief that the abreaction would prove beneficial. Finally, the possibility of discipline in fear was discussed, and various counter measures were suggested, such as the avoidance of physical or emotional isolation, and the substitution of purposeful physical activity for the diffuse or disordered outlet of panic. No doubt the final result was favourably influenced by the fact that, as transport from the area was limited to a few destroyers each week, it was obviously impossible for the psychiatric patient to be evacuated, so that he tended to waste little time in fruitless speculation about escape.

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These measures were, in the main, the only ones undertaken. Occupational therapy was impossible owing to lack of space, and physical methods involving the use of heavy sedation raised insuperable nursing difficulties. Patients were returned to their units direct from the wards, since no convalescent camp was available. This may have been beneficial, since a convalescent depôt often prevents quick recovery by representing a semi-pleasant compromise with reality.

Patients with frank anxiety states responded to this form of treatment less readily than those with simple "fear state". As was indicated earlier, very little attempt was made to explore underlying conflicts, and men were no doubt sent back to duty with unresolved complexes. The wisdom of this is open to question and the point will be discussed later; it suffices to say that it was considered to be the psychiatrist's immediate duty to get men back to the front line, if they were able to make a temporary adjustment sufficient to enable them to carry on.

The evacuation of patients to a rear base was carried out by sea. Of 250 casualties admitted, 125 were evacuated to a rear base. The remainder were returned to their units after an average stay in hospital of three weeks. Casualties regarded as requiring evacuation included those suffering from "fear states" superimposed on personality defects with a life-long history of uncontrollable fear reactions, from anxiety states associated with a previous history of severe breakdown or head injury, and from any psychiatric disorder with which, in addition, a substantial physical disease was present at the time.

The final result of the work was that 61% of the men were returned to their units in Tobruk and remained there for a period of two months or longer. Casualties readmitted to hospital were almost always evacuated; the number was not large (11%).

The main lesson learned from working in Tobruk was that the acute nervous disorders of war are best treated near the front line. Subsequent experience has confirmed the belief that the favourability in prognosis varies inversely as the distance from the front line at which treatment is commenced. The apparently low incidence of psychiatric disorder amongst troops in the area was a further feature of note. Considerable interest was derived from the fact that in this area the peculiar problems of mental reaction to siege life could be attacked, the limited facilities available at the time being used.

Experiences at a Convalescent Depot in Palestine.

In the closing few months of 1941, I was transferred to a psychiatric centre attached to a convalescent depôt in Palestine. This was a camp with no hospital or nursing facilities. Patients were admitted from various Australian hospitals, and included both men who had seen combat service and those from surrounding base units. Roughly one-third were from base units. At the time of my arrival, most of those with the more acute illnesses resulting from the campaigns of Libya, Greece and Syria had been dealt with, and the rate of return to unit was at the most satisfactory figure of 50%. Gradually the type of case changed; more casualties with chronic anxiety state, mental defect, and psychotic illness were admitted. The majority had been in various hospitals for periods up to three months.

There were now opportunities for more complete examination and psychotherapy. Treatment, however, was found to be more difficult. The patient's history of his original stress, which had previously been uncomplicated, had altered considerably. It was elaborated, dramatized, suppressed, coloured. Many patients now claimed a traumatic factor as the causal one, whereas in more forward areas an emotional one had been accepted. The dreary route of medical evacuation had added its complications. Repeated recital of their symptoms, together with repeated clinical examinations, had allowed the development of fixed somatic complaints. Transfer from one hospital to another, "without finding out the cause", had engendered feelings of despondency and paranoid ideas regarding their medical management. The soldier, no longer belonging to a battalion, felt discarded and ineffective. The loss of self-esteem was often compensated by stories of his fighting exploits, or he would endeavour to attach sympathy to himself through the medium of supposed physical disabilities. Sometimes he would profess a desire to be "back with the boys"; but in another moment he would overstate his disability in such strong terms that it was plain to all he could not possibly return. Reactive depression was present, and he became introspective. Constructive mental or physical effort induced feelings of exhaustion or failure. Other ætiological factors, which one suspected were not present at the original breakdown, were now alleged. Difficulties in his unit, incompatibilities with his fellow-men and officers which had been present for some months prior to stress, were mentioned. Pre-war problems and intolerable family burdens began to overshadow in the patient's mind the importance of the stress of war; a number made application on compassionate grounds for return to Australia. About 40% recollected psychological difficulties of childhood and early adult life, indicating, they claimed, that they were constitutionally unfitted to stand stress of any kind. It was found that, following several interviews, somatic symptoms would become less prominent, but features of acute anxiety would reappear. Later in the treatment, when the time was near for some decision to be made concerning return to duty, the patient would often present new material, such as the presence of homosexual dreams or forgotten incidents of early life. This material, in some cases, represented evidence of previous latent conflicts; in other cases, however, one could not escape the suspicion that the patient was consciously providing a new medium of access to the physician's interest and sympathy, in an attempt to defer the evil day of discharge back to duty.

Occupational therapy was found most beneficial, but control and modification were necessary, as the method of its application necessarily differed from that employed in civilian psychiatry. The whole question of occupational therapy is interesting. There is no doubt of its value as a means of focusing mental energy, which in the neurotic is diffused in aimless activities and in preoccupation with visceral sensations. In its simpler forms, it relieves agitation or lifts depression. It may wean a convalescing schizophrenic away from fantasy. Some benefit accrues from engaging neurotics and psychotics, who are confined to bed, in craft-works such as leather-punching, toy-making and weaving. However, in my opinion, the therapist who believes that such craft-works are of anything more than limited value is misled. There is an enormous discrepancy between the circumscribed activity of making a stuffed rabbit and the grim reality of soldiering.

Although the principle of making occupational therapy voluntary is a sound one, it was found that attendance at classes was irregular, and that many men, if left to themselves, would prefer to do nothing. One has but to be in the army to realize how even the best soldier, whilst waiting between actions, will slump into inertia. This is much more marked in the case of a neurotic, who has suffered perhaps months of inactivity in various hospitals whilst awaiting decisions regarding his medical condition and his further treatment.

In Palestine, occupational work was established along practical lines, such as plumbing, engineering, wood-working and sign-writing. The advantage of teaching a patient some new useful craft or of exploiting pre-war knowledge is clear, since after his discharge from hospital after medical reclassification, strong representation can be made to the army authorities that a man should be employed along the special lines for which he has been training.

Final disposition and employment in the army in a job that is both suitable and satisfying are an integral part of psychiatric treatment. In Palestine, attempts were made to follow this principle, and when cooperation was forthcoming from units, there were notable successes. The question is one of intra-military rehabilitation. Its important counterpart, post-military rehabilitation, will be mentioned later.

Following treatment, the proportion who returned to service in my own series was 20%—approximately the general figure at the time. Other patients were either reclassified or evacuated to Australia.

The question of medical reclassification is a most difficult one. It is not comparable to "medical boarding" for surgical or medical disability. The severely myopic or arthritic subject is obviously unfit in one particular aspect of his activities, and to reclassify him to a lower category in a base occupation is a measure which is reasonable to the soldier. The soldier suffering from a neurotic illness which is stationary is, however, a different problem. His condition represents a failure of adjustment to the total war situation, not only to the actual business of physical combat. Therefore, in the "B" class sphere, his fear or his resentment or whatever his particular problem is, is still operating. To give such a man "B" class work will place him in what is probably an inferior occupation amongst other men of inferior personality. His remaining self-esteem may disappear, and he will quite probably lower his standard of

efficiency to comply with the minimal requirements of his environment.

The foregoing remarks do not of course apply universally, and as has been mentioned previously, the careful placing of a soldier in a "B" class occupation to suit a particular bent or trade qualification often converts him from an inefficient soldier in a general market to a satisfied and enthusiastic worker in his more specialized field. The rapidly growing pool of "B" class personnel at present in Australia contains a large number from the ranks of the psychologically unsound. It is doubtful whether they can all be used economically. The answer to the problem is the employment of more rigorous criteria for medical reclassification to a lower category; if by such criteria a man is unsuitable for front line duties, he should be discharged from the army. It is hardly necessary to indicate the dangers of the indiscriminate application of this principle.

In summarizing the impressions of the work in this rear base area, one may enumerate the following conclusions.

The facilities for psychiatric investigation and treatment were better than those existing in the forward area, but the neurotic disability which confronted the therapist was more often long-standing, fixed and complex.

Deeper psychotherapy was required; but some of the disadvantages and limitations of such treatment under army conditions became apparent.

The value of certain types of occupational therapy was confirmed.

Success in returning the soldier to his original duties was, from a statistical point of view, much more limited than in the forward area.

Experiences at a Base Hospital in South Australia.

Following my return to Australia early in 1942, I commenced psychiatric work in a base hospital in South Australia.

The clinical material reaching us over the period of the succeeding five months comprised chronically affected patients who had been evacuated to Australia from the Middle East after some months of treatment. Diseases were of severe grade, and it was obvious that a large number of the casualties would not recover sufficiently well to continue in military service. They were, however, not well enough to be discharged from the army with any prospect of being able to undertake civil employment. Most were suffering from anxiety state, some having added depressive or hysterical features. There were very few with psychotic states, and of these, all were schizophrenics. A number of mental defectives were seen from neighbouring training areas, where they had been quickly picked out by their fellows and by those responsible for their training.

The first step in the treatment of most anxiety neuroses in this hospital was to inform the soldier that he would be discharged from the army as soon as he was well enough to earn a living in the general employment market. This was done in order to remove from the ætiological picture any factors arising from a desire to get out of the army. This measure was successful in approximately 50% of cases; the symptoms subsided when the men started constructive planning for the future. It has yet to be determined whether they will break down under the stress of civil readjustment. Some certainly will do so later, either when fortune takes a difficult turn or as the years bring involutional bodily changes.

A series of 20 patients with anxiety states was treated by insulin shock methods. All of these men had received months of various kinds of treatments, and were unsuitable for discharge from the army because of the severity of their symptoms. Most of them were tremulous, depending entirely for emotional stability on the secure atmosphere of the hospital ward. They were incapable of dealing with even trivial problems associated with everyday life in the outside world. Some had become hopeless of the future, and had raised a barricade of symptoms between themselves and the possibility of making a living; some others, confident that when they were discharged from the army all would be well, broke down hopelessly when given short leave periods with their families. In all cases, appetite was poor, and there were varying degrees of loss of weight. Insulin therapy was instituted according to the usual routine used for the treatment of subjects with schizophrenic psychoses and depressive states. No more than 30 periods of coma were induced. There were no very unusual features in the development of the hypoglycæmic state. Behaviour patterns appearing prior to the onset of coma resembled either "regression" to a form of primitive animal behaviour, with violence, grimacing, snarling and destructiveness, often with incoherent shouting and resistiveness as a prelude; or else where was a quieter, more infantile behaviour, with suckling movements of the lips, fondling gestures, and whimpering. Each of two patients frequently mistook the attendant for his mother, both before and after the onset of coma. In all cases, appetite improved and weight increased. In certain cases the skin took on a more healthy texture. General interest in surroundings increased, and the subjects' social relationships improved. One patient suffering from a depressive state became much worse during treatment, and developed more obvious signs of psychosis.

At the conclusion of the treatment, all but two patients were regarded as employable as civilians, and were discharged from the army.

In my experience, the effect of insulin shock therapy is not at all specific. The most that can be claimed is that insulin increases weight and appetite. The other beneficial effects are no doubt due to the fact that the concentrated attention necessary in the insulin room brings about a close relationship between therapist and patient. The institution of a long and rather dramatic form of treatment gives the patient, who has long since failed to respond to other methods, a renewed hope of recovery. During and at the conclusion of treatment, he usually experiences a sense of physical well-being, which helps to improve his mental outlook. The daily contact with physician and nurse allows of at least superficial psychotherapy, which has not before been possible during the short bedside interviews of ward rounds in a general hospital. It is impossible to state whether or not the results in the cases quoted will be permanent. One patient is known to have been earning his living steadily as a tram conductor for at least a year since his treatment, and has had no symptoms.

Much time in South Australia was spent in the task of medical reclassification—usually to categories of "B" class (fit for base duties) or "D" class (unfit). The tedious and rather depressing task of ushering soldiers out of an army which has limited resources of manpower was nevertheless interesting in some respects. As has been mentioned previously, the record of at least one complete history and examination, made at the onset of the illness, was of great value in estimating the degree of the present disability which could be accepted as due to military service. From an examination of the past personal history, one could assess the personality of the soldier prior to war stress. A full record of the length and type of service afforded an appreciation of the stress occasioned by such work, and gave some idea of the part warfare had played in causing or aggravating his condition.

The question of compensation for disability is an important and contentious one when neurotics are being discharged from the army. Symptoms may have made their appearance in disabling degree for the first time during war service, and therefore it may well be claimed that the soldier is entitled to a pension commensurate with the degree of disability which he shows at the time of his discharge. It is sufficiently clear, however, that a neurotic predisposition plays an important ætiological rôle in most mental breakdowns; in the series under review, this was present in 40% of cases. The reaction is determined by changes in the individual's relationship with his environment, and recovery is quite likely to occur when the environment becomes compatible with the individual. On his discharge from the army, therefore, his illness may become minimal, and his qualification for a pension may proportionately diminish.

The features mentioned in the description of the work in South Australia may be said to embody some of the problems of psychiatry in rear and in base hospitals, which are chiefly those of final treatment and discharge. At the time at which this work was done, the final concern of army psychiatrists—namely, that of rehabilitation—had not been attacked in South Australia.

Experiences in New Guinea.

My transfer to New Guinea in August, 1942, marked the beginning of the last year of work surveyed in this essay.

When I entered this new sphere of activity, the most obvious features were the altered environment and the changed conditions of warfare. Jungle fighting presented new stimuli and evoked new responses in our troops. Of first importance was the tremendous demand made on physical endurance. Advance to the front line was over the Kokoda trail, which wound its dreadful way over back-breaking, seemingly endless mountain

ranges. The men made their way in single file through mud under the constant drizzle of tropical rain. The day's march was on the "rendezvous" principle, as all organized marching was impracticable. The advantages of mass marching, which provides a stimulus to the man who is flagging, were lost. Progress became a matter of individual endurance. At the end of this terrible trail, weary men were confronted with a new and a strange type of warfare. There was no "line", no forward or rear position. Seldom was there a large aggregation of the enemy to engage in one position; seldom indeed could he even be seen. He was an invisible menace behind a moving curtain of leaves and shadows. The detection of sound and movement became factors of prime biological importance. Warfare was a struggle, not of units, but of individuals. The momentum imparted by concerted attack was absent. Such conditions called for a display of cunning, of personal aggressiveness and of courage of the highest order. Most of the men quickly proved that they possessed these qualities; but a few, whose success as soldiers depended upon the momentum of the herd, developed serious and sometimes incapacitating mental difficulties.

With one's experiences in Tobruk in mind, it was of interest and importance to determine whether the psychiatric picture had been materially altered by this new set of conditions. The following problems suggested themselves for investigation. One wished to know whether men who had survived Middle East campaigns would break down when exposed to this new environment, and whether the type of mental disturbance would show any change from that observed elsewhere. It was important to determine also any alteration in incidence of breakdown, and whether this was higher in conscripted than in enlisted men. Special attention will be directed to these points in subsequent discussion.

Over a period of one year, 500 psychiatric casualties were admitted to the Australian general hospital to which I was attached. This hospital was situated in a relatively forward position, and received casualties within a short period of their seeing action. Psychiatric casualties comprised 2% to 3% of total hospital admissions, and included equal numbers of front-line and line-of-communication troops. Corresponding to the two phases of the campaign, the cases may be divided into two groups—namely, those occurring between September, 1942, and January, 1943 (which period includes the action of the Owen Stanley Ranges up to the time of consolidation of our positions at Buna, Gona and Wau), and those from January to September, 1943—a time of quiescence broken by the beginning of the Lae-Salamaua phase.

Casualties from forward units were evacuated to hospital in various ways. In the early days, the men walked down the trail to Port Moresby, a march of five or six days. Later, transport was from air fields near the scene of action. At first, all patients were admitted to a general medical ward, but in the later months a ward was constructed for the special purpose of receiving psychiatric casualties. The admixture of general and special patients presented no real difficulties; at times, it was found to be an advantage. The quick response to rest and treatment, and the cheerful, objective outlook of the soldier suffering from malaria or convalescing from scrub typhus, helped to eradicate the impression that the ward was a special compound for the man who was called by his fellows "bomb happy". Moreover, as this ward contained mainly men with psychiatric disorders, these patients received equal attention with those suffering from organic illness—a state of affairs not always possible in a busy medical ward.

A statistical study of the material obtained permitted a division of the cases into the following diagnostic groups. Anxiety states predominated, accounting for 35% of the total admissions. Psychopathic states, or conditions labelled "personality inferiority", made up the next largest group and represented 20% of the total. "Fear states" and hysteria ranked next, and occurred in approximately equal numbers, each group accounting for 15%. Psychotic disorders comprised 10%; while the remaining 5% included depressive states, hypochondria and mental defects.

Troops belonging to the Australian Imperial Force and the Militia were almost equally represented in the series. The relative total numbers in the field of each of these two branches of the army were equal as far as could be determined.

The ratio of officers, non-commissioned officers and men who developed neurotic illness was the same as that obtaining in any other medical illness. However, it was found that in those units whose officers developed a high proportion of illness, the incidence amongst the men was correspondingly high.

Studies of age incidence were not helpful, since the average age of all troops engaged was not known. A large proportion of fear states, hysterical states, and conditions of "personality inferiority" occurred in men under the age of thirty years; the anxiety states occurred more commonly in men in the late thirties and above forty years of age. More than 75% of the psychotics were men less than thirty years of age.

An estimate of the type and quality of battle stress to which the patients had been subjected was attempted. It was found that approximately two-thirds of the total number of psychiatric casualties had not encountered any experience of actual combat, bombing attack being included under this heading. However, all but a few of the men who broke down with fear reactions did so as a result of combat stress; the few who did not require this stimulus were of psychopathic type, and had shown some fear reaction either on the journey to New Guinea or on being confronted with the relatively more realistic indication of warfare near an operational area. Consequently, men of this type were, with very few exceptions, referred to hospital long before the advent of battle stress; the few who were taken forward broke down almost immediately. Approximately 50% of men with anxiety states who had broken down in the first six months of the campaign came from combat areas; in the second six months, as the fighting slowed down, it was found that the larger proportion of those who became ill came from base areas. Apparently, this type of man reacted just as severely, or more so, to the unavoidable boredom and monotony of base areas, as he did to the more urgent stress of battle. Cases of hysteria, on the other hand, most commonly appeared as a result of action. Psychotic reactions of the schizophrenic type occurred with equal frequency in combat and non-combat areas. There was no evidence to suggest any relationship between prolonged battle stress and the onset of symptoms of psychoneurosis.

The relationship between the occurrence of physical illness and that of neurotic illness was studied. The occurrence of physical illness was high in psychiatric patients and comprised, in the main, malaria and dysentery. An examination of the incidence of physical illness in the total army population, however, showed approximately the same proportion. On the other hand, men who were wounded were less prone to develop neurotic reactions. This suggests that physical illness does not play an important tôle in the development of neurosis.

It was suggested earlier that the factor of physical exhaustion was a more prominent one in producing psychiatric disorder in this campaign than in the Middle East. This statement applies to patients admitted to hospital from combat areas, and more particularly to those admitted during the first six months, when fighting was most bitter. Statistical evidence is available to prove this. The statement does not apply in any significant degree to patients coming from the Port Moresby area. The effects of exhaustion were in most cases of short duration; with rest in bed and dietetic measures the men recovered quickly. Neither the factor of stress nor that of exhaustion appeared to influence the ability of these patients to return to the area from which they had come.

The complaint of exhaustion, as opposed to the actual fact of exhaustion, occurred in about half the total number of cases. Careful investigation showed a large percentage of these patients to have a feeling of exhaustion quite out of proportion to the degree of stress endured. As would be expected, this type did not respond so readily to measures of rest and diet.

An examination of the service record of each patient confirmed the belief that psychological breakdown in action, or during service in an operational zone, often goes hand in hand with an unsatisfactory service record. Features in the record, which were regarded as unsatisfactory, included early difficulty in absorbing army routine and training, the inability to finish training route-marches, a record of complaints such as "bad back", "flat feet", varicocele, varicose veins, inability to "digest" army diet, visual trouble due to "glare" and "dust", and inability to "stand the tropics". Such men had often been excused parades, and had been given less arduous duties, such as store work, unskilled clerical duties, or "offsider" duties in the kitchen or mess. They moved in a protected and circumscribed orbit of more or less useful activity, and when forced out of it developed neurotic symptoms.

All patients in the "personality inferiority" group showed weaknesses in their training record. Half of those with anxiety states exhibited similar features. Men affected by hysterical

and fear states, on the other hand, gave much less indication, in the early period, that they might subsequently break down. It seemed that in the latter two conditions, actual battle stress was the important exciting factor. The service records of psychotics often lacked detail. When an account from outside observers was forthcoming, it was evident that in about one-half of the cases schizoid traits were present, but not marked, throughout the army career. In the rest, psychotic reactions appeared to come out of a clear sky, and in the case of these men there was a history of severe battle stress.

The pre-war personal history was mentioned briefly in an earlier part of this essay. In its broadest aspects, such a history included that of the parents and family of the soldier's childhood and school career, and in the adult period, an estimate of his ability to cope with his work-a-day and home environment. Of the total number of psychiatric casualties, 35% alleged that one member of the family had had a nervous or mental "breakdown" or had taken "fits", or was "hysterical" or subject to "nervous turns", in sufficiently severe degree to necessitate medical attention and periods of more than seven days at a time away from work. This figure has been found to be approximately constant for all theatres of war under consideration. The presence of neurotic traits in early childhood was described by 15% of patients. It is difficult to assess the significance of these two findings, because an equal number of normal records was not compared. However, when all patients were grouped into two classes—those who recovered sufficiently to return to their units, and those who did not—no significant difference was found in the incidence of these two features in the personal history. There was a significant difference, however, in respect of other features. Men who had shown neurotic symptoms in civilian life (35%), and those who had exhibited instability and incompetence in their civilian work (18%) were less often able to resume their former army duties. These men commonly required reclassification or evacuation to Australia.

Sexual maladjustments seemed to occur but seldom in the soldier's pre-war or service history, and were noted in less than 8% of all cases. It is admitted that this figure might have resulted from incompleteness in examination, as the average Australian soldier will not readily discuss his sex difficulties, except after considerable contact with his physician. My impression is, however, that frank sexual maladjustments play but a small rôle in the incidence of psychological disorder of war time.

The various types of disorder seen in the New Guinea area will now be discussed in turn.

Patients with anxiety states showed very little difference in detail from those observed elsewhere. The onset was seldom acute, and often the patient presented for treatment after symptoms of a minor degree had been present for some months. An acute turn of events usually brought the soldier to hospital. A history showed that for months he had been sleeping badly, not resting properly till early morning, and waking unrefreshed. His appetite had waned, and the articles of diet which he found most likely to provoke nausea or indigestion were those very ones which were most commonly available from the army kitchen. "Bully-beef" and army biscuits he "could not touch"; cabbage was "indigestible"; he "never ate beans". He had lived on tinned fruits, toast and butter. When in hospital, however, he would often be observed to eat well; but he would select from the "light diet", articles such as salads, white meats, chocolate, eggs, jelly and cakes, none of which he had been able to obtain prior to his admission. In hospital his ability to sleep would improve; but, when he required drugs, he would not readily respond to those two sedatives most popular in the battalion medical stores—phenobarbital and bromides. His daily duties were restricted by symptoms which were often peculiar to the type of work he was doing. The driver would complain of temporary lapses of memory whilst driving, which he feared would "endanger the lives of others", or of giddiness on bending down to change a tire. Those working exposed to the sun complained of "glare" or of "weakness" brought on by sweating. Clerks developed visual difficulties or forgetfulness. Men in the field complained of increasing exhaustibility and of inability to cope with jungle marches, of palpitations and precordial distress, of "pumping in the throat" and other symptoms which in the last war were all referred to as those of "soldier's heart". Storemen, or men accustomed to rely on manual work to make a living, often complained of pain in the back, absent when recumbent and aggravated by work, sometimes with pain radiation inconsistent with any segmental or nerve trunk distribution. In all cases, headache of the constricting bitemporal and occipital type was a prominent symptom. These bodily symptoms generally bore the hallmarks of neurotic visceral sensations, in that they were inconsistent and inconstant. They would disappear when their presence was neither necessary nor productive, only to give place to other symptoms involving a different visceral system. In those men with a tendency to hypochondriacal reactions, there was more constancy in symptomatology, although this did not approach in degree the visceral preoccupation characteristic of the true hypochondriac. Symptom fixity was also found in men aged over forty years with anxiety states, in whom the personality was more rigid, and in whom possible involutional factors were operative.

The marked frequency in incidence of somatic symptoms in anxiety states in this series has been noted previously. Emotional distress, or admission of morbid anxieties not referable to any somatic structure, was much less common. Possibly this was due to the fact that in the army access to the medical officer or to the attention of those in authority is best obtained through the medium of a bodily complaint rather than a mental one. Many of the most common anxiety symptoms are but variations of visceral sensations that occur commonly in the soldier's life. Dyspnœa on exertion, palpitation and a feeling of precordial constriction all occur normally in men subjected to hard climbing.

It is interesting to compare the incidence of "cardiac" symptoms of anxiety in the various theatres of war. In New Guinea they occurred in 20% of cases, in Tobruk in only 5%. Between these two extremes, there were a 12% and an 8% incidence in Palestine and in Australia respectively. In all, the incidence is a low one compared with that described in the last war. It is possible that, consequent upon the great increase in mechanization of the army since then, the soldier is now seldom called on to make long route-marches; he less often encounters the normal reactions attendant on long marching with a heavy pack—namely, the symptoms of forcible cardiac action. It will be noted, in support of this theory, that the highest figure for the incidence of cardiac symptoms was in the New Guinea theatre, where nearly all the campaigning was done on foot and over mountain ranges where the height above sea-level induces breathlessness and precordial discomfort on exertion even in the normal man.

Gastro-intestinal symptoms occurred frequently. The commonest were nausea and indigestion; the latter did not resemble that due to peptic ulceration, and was unrelieved by alkaline powders. The epigastric sensation described as "churned up", or the feeling that the stomach "is knotted like a ball", is common in anxiety states. There is probably a close relationship between these symptoms and those resulting from stimulation of the sympathetic nervous system. I have observed two patients who, during the course of X-ray examination after a barium meal, were subjected to stress from nearby bombing. At the time of bombing, the stomach was seen to become atonic, and dilated by the weight of barium. One of these men complained at the time of the "sinking feeling" associated with fear reactions. A further possible factor in the production of gastric symptoms was the monotonous diet, which often lacked sufficient attractiveness to evoke that pleasurable sensation which acts as a stimulus to gastric secretion. On such a diet even normal men, after long periods of strain, may vomit spontaneously.

Quite a number of neurotic patients appeared to swallow large quantities of air, particularly at night during periods of insomnia. This was associated with epigastric discomfort and fullness, which was relieved after belching.

Headache was notable in this series. A large number of patients presenting with this complaint had previously seen an ophthalmologist, in the belief that there was an ocular cause for this symptom. In most cases, insufficient refractive error was found to account for headache, and they were referred for psychiatric examination.

Most of the patients with anxiety states were miserable and introspective; but other subjective feelings of emotional tension and distress occurred much less commonly than did visceral symptoms. These feelings included the well-known sensation of nameless dread; they came on in attacks, and were sometimes associated with tachycardia and hyperventilation. A number of patients seemed to be worried by their lack of "drive", but others were quite unmoved by this. On interview, they were somewhat self-pitying and depressed, and showed little insight into the mechanism operating in their condition. They were at once egocentric and dependent. It

XUM

was found most difficult to swing these patients' attention away from aimless preoccupation towards constructive thinking, and to induce them to orientate their disabilities in correct relationship to their environment. Objective evidence of anxiety was present in only a few cases. Such patients were tense and sweating or showed persistent tachycardia. Gross tremor was seen, but occurred in less than one-quarter of the total number of cases.

Depressive features coloured the anxiety story in some instances. Such features usually existed as a secondary effect, and were not accompanied by motor or mental retardation. Hysterical additions to the picture were present in approximately half the total number of cases. Evidence of hysterical personality existing as a basis in anxiety reactions showed itself either as an attitude of mind typified by a bland acceptance of symptoms as inevitable and incurable, or as an hysterical dramatization of the patient's disabilities in an attempt to justify their severity. In a few instances, there were hysterical speech disorders or temporary disturbances of consciousness, described by the patient as "blackouts".

It is convenient to describe here several aspects of treatment in anxiety state, some of which have not previously been discussed in this work. These include psychotherapy, occupational treatment, physical exercise and treatment with insulin hypoglycæmia.

Psychotherapeutic interviews were given approximately every three days, and were one-quarter of an hour to one hour in length. In no case was therapy other than superficial. Reassurance and explanation figured prominently. The first interview was devoted to allowing the patient to describe, as fully as he desired and more or less unhindered by comment, his history and symptoms. A careful physical examination was performed and any proposed special investigations were outlined to the patient. If it was considered that he had no physical lesion, the point was stressed that these special investigations were being carried out in order to prove the absence of organic disease. These early interviews were intended to establish in the patient's mind confidence in his own physical state and in the understanding of his medical attendant. The history and findings were then studied and the patient was given a summary of the judgement on his case. The psychiatrist then indicated the probable mode of action of emotional factors in the production of physical symptoms. The manner and detail employed in doing this were determined by the intelligence and personality of the patient. To a man with a poor educational level, no attempt was made to explain psychological mechanisms. Rather was it the custom to reassure such a patient, stating that his condition was not serious, but that it was due to a disturbance in his nervous system which rest, drugs and "talking it over" would relieve. Particular emphasis was placed on the healing powers of time, the psychiatrist confidently stating that the condition was a transient one.

A more intelligent patient would be given a modified account of the action of the sympathetic nervous system as it affected his own illness. The salient features of the past history were regrouped, and were represented to the patient as factors operating in the formation of his present mental state. He was told that his symptoms were the expression of an emotional tension, and that somatic symptoms represented the bodily expression of mental unrest. He was assured that the purpose of the interviews was to teach him to express his mental energies in constructive, focused mental and physical effort. The patient was told that thought must be "turned outward", rather than on himself. When feelings of fatigue were marked, he was put on a programme of mental and physical work, at first modest, later increasing in amount and complexity. The presence in the hospital of a branch of the Army Educational Service was of value to patients whose treatment was well advanced. Such patients were induced to embark on educational courses likely to aid them in the post-war period.

Little attempt was made to correlate early conflicts with the present condition, and one tended to stress the present environmental factor as the salient one. The man who presented fixed symptoms, such as headache, indigestion and backache, was little improved by this type of psychotherapy. In his case a rather different attitude was adopted. He was told that his present symptoms would persist "for three months or longer"; the variants he might expect were outlined and others which might occur were described. The development of a new symptom was greeted by the psychiatrist with the attitude that it had occurred "according to plan", and was quite to be expected. He then took care to predict that it would become more severe. The object of this rather crude form of therapy was to attempt to rob the somatic symptom of its value as an agent for the expression of emotional conflicts. Men tended to react to this method in one of two ways. Some became more interested in their symptom picture, and adopted the attitude that theirs was a cross to be borne. They accepted their symptom as a satisfactory and sometimes satisfying method of exteriorizing something more painful that lay beneath. Other men, when told exactly what to expect—and the future was deliberately over-painted by the physician—would report with satisfaction that the medical officer had over-estimated the severity of their condition. The result in both types of case was that the patient had fewer complaints. In principle, the object was to attempt to bring about a reversal of the process which had previously taken place in the formation of the neurosis—namely, the substitution of a somatic complaint for a mental one. The somatic complaint was no longer allowed to produce its desired effect on physician or patient. The symptom was made to play the rôle of a foregone conclusion—and there is something final about a foregone conclusion which is incompatible with the maintenance of a sharp affective response. Consequently, the patient would exhibit more evidence of emotional upset, so that in many instances it became plain to him that his illness was emotionally determined. He was then rather more accessible to the first form of psychotherapy outlined.

Facilities for occupational therapy in New Guinea were limited to the making of toys and to weaving from materials supplied by the Red Cross Society. The scope of this form of treatment has been previously indicated. As a complement to this, previous trade occupations were exploited by the attachment of patients to unit plumbers, carpenters, electricians, engineers or signwriters. Other patients were attached in a similar way for part-time duties to the dispensary, quartermaster's store or pathological laboratory, or were sent for simple clerical duties. A few men were employed in the construction of gardens about the ward, and others were allotted ward duties on a roster system. In some cases, it was possible to absorb patients who had received such training into established hospital duties, or to recommend, when discharging them from hospital, work similar to that which they had successfully performed as patients.

Modified insulin hypoglycæmic treatment was used for approximately 60 patients. The two indications for such treatment were, firstly, acute anxiety state with loss of weight, insomnia and agitation, and secondly, "functional" dyspepsia with anorexia, nausea, vomiting and loss of weight. The usual dosage of insulin per injection was between 40 and 120 units administered according to the usual routine—that is, an early morning injection given on six days per week. A degree of hypoglycæmia sufficient to cause sweating, hunger, tremor and light somnolence was maintained for three and a half hours and was terminated by the oral administration of sucrose. If there was any evidence that the hypoglycæmic condition was advancing beyond the state in which the patient was able to drink, the treatment was terminated before three and a half hours had elapsed. The treatment was not continued beyond a period of four weeks. In 20 cases, deeper hypoglycæmia was permitted, and the patient was allowed to pass into light coma, this condition being terminated after one hour by the administration of sucrose through a nasal tube. In cases associated with dyspepsia, the midday meal, which was taken when the patient was most hungry, was arranged to consist of those items of diet which he held aggravated his indigestion. In the afternoons light physical exercise was given in the physical therapy department. It was explained to the patient that any symptoms of giddiness or any tremor during exercise could be best remedied by taking a larger meal at midday. The effect in both types of insulin treatment was to produce increase in appetite, gain in weight, and a feeling of physical well-being.

"Cardiac" symptoms of anxiety proved difficult to treat. Physical therapy was used as an important adjunct to psychotherapy. At first sight this would appear to be undesirable, in that it might suggest to the patient that special physical measures were necessary for the improvement of the "heart". But in the formulation of the necessity for physical therapy, the patient was told that his general physical condition needed "building-up", and that his dyspnœa had a pulmonary, not a cardiac origin. Stress was repeatedly placed on the beneficial effect of forcible cardiac action. At the same time, the scope of physical exercise was extended and the patient was told that the sensations of which he complained would increase. An attempt was made to teach him to accept the sensation of

forcible cardiac action as he would the feelings of pleasurable fatigue in skeletal muscle normally resulting from heavy physical exercise. For the patients who reacted favourably, the type of physical exercise was gradually changed from the more specialized procedures of a physical therapy department to manual effort more closely approximating the physical stress which occurs in the daily life of the soldier. This procedure was adopted in an endeavour to convince the patient of his growing physical strength, and to demonstrate to him that he was now achieving without distress much the same type and amount of work which he normally did in his unit. Results were not strikingly good in cases of anxiety state associated with cardiac symptoms, and in practice it was found that those who failed to improve in one month would not again be fit for front line service.

The type of "fear state" seen in New Guinea did not differ essentially from that seen in Tobruk. The stimulus to fear reaction was of course different. The sounds of aircraft motors and of bombing were not so prominent in this respect; but any noise in the immediate surroundings resembling the menacing sounds heard during fighting in the jungle was a potent stimulus. At night men would start at the merest sound; they could not rest if there were lights about; they might leap out of bed trembling at a sudden voice; their dreams and reminiscences were of sudden violence coming out of the jungle, or of attacks from behind. The number of patients with "fear state" who could not be returned to front line duty in New Guinea was rather larger than in the Middle East. It would seem that these men became so "sensitized" to sound that jungle service, even apart from enemy contact, continued to represent to them a menace which they could not face.

Hysterical reactions were more common in New Guinea than in Tobruk. There was a history of hysterical disturbance prior to the war in 15% of cases, while evidence of hysterical personality traits was present in 80%. The incidence amongst officers was higher than for other neurotic disturbances. In general terms, however, the reactions as a whole did not occur more commonly in men of a higher cultural level than in others. The two main groups of hysterical phenomena comprised alterations in normal consciousness, and disturbances of speech. The least common form was hysterical paralysis, which was seen in pure form on ten occasions only. A frequent story was one of loss of consciousness occurring during an attack or following an explosion. Unconsciousness was usually attributed by the soldier to "exhaustion", "heat stroke" or "blast". In more than half the cases, careful inquiry, however, revealed evidence that the soldier had previously been "shaky", sleeping badly and becoming solitary and anxious, and that following an explosion he had lost consciousness. There was no retrograde amnesia, and loss of memory following the event, though patchy, would usually end abruptly when the patient reached a medical post. It would often be found that during the intervening period he had walked back to the post unaided, or in the company of his fellows. Following the attack, apparent recovery would occur with rest, but on being sent forward again he would develop violent agitation and tremor, or would wander away and be found in the jungle near by having no knowledge of time or place. In no instance was there evidence that the soldier had further endangered his life whilst in the hysterical state. Typical fugues were less common, and were prone to occur in base troops. Probably this was due to the fact that near the front line an hysterical flight would be too difficult and dangerous. In forward positions in the jungle, activity is limited to attending to the biological necessities of subsistence, defence and attack; retreat in a fugue state from this situation would not relieve the soldier of these necessities, but would merely lead him into conditions more trying than those from which he had fled.

Some troops, not previously exhibiting hysterical traits, developed them in response to impossible quandaries.

> One infantryman, "pinned down" by Japanese machine-gun fire, heard a wounded comrade some distance away in open ground calling for help. Two men had already made an attempt to bring him in and had been wounded. The patient, who was at the time in charge of the main party and responsible for it, felt he should go out, but correctly estimated his chances of survival as nil. He remembered no more till his arrival in Port Moresby five days later. Following the relief of his amnesia, he developed an acute anxiety state with marked depressive features and feelings of inferiority and guilt.

Hysterical stupor was seen but rarely, as in those cases in which it occurred the condition had usually subsided before the patient's admission to hospital. Several men developed mutism, apathy and confusion, resembling acute schizophrenia. During interview they were inaccessible and showed no evidence of hearing spoken words. Their detachment was, however, more selective than in schizophrenia, and they occasionally showed signs of apprehension or would weep when questions were directed at the particular situation in which their condition had developed. After suggestion, or after one "Cardiazol" injection, they quickly recovered and did not relapse. However, they frequently developed anxiety symptoms following relief of the confusion.

Hysterical convulsions occurred equally frequently in base and in forward troops. In the latter, they occurred most often in a camp area or on patrol. They never occurred during action. Repeated seizures were commoner in base troops. Self-injury of severe degree occurred in two instances only. In no case in which convulsions were observed by a medical officer was there much difficulty in making the differential diagnosis from epilepsy. All patients who had convulsions were subjected to routine neurological examination, X-ray examination of the skull, spinal fluid examination, and serological examination of the blood for evidence of syphilis. In none was there found any evidence of organic brain disease. No success was obtained in relieving the convulsions except by finding a situation in which the soldier did not have convulsions. Return to the front line almost invariably resulted in readmission to hospital. In severe cases the men were evacuated to Australia.

Hysterical speech disturbance was uncommon, and was usually in the form of an aggravation or reappearance of stammering or stuttering which had been present in childhood or for longer. When the disorder occurred for the first time, it was usually corrected easily after the soldier was withdrawn from the causal situation. In cases of the former type, however, the disability decreased, but never completely disappeared. Treatment was by suggestion, by reassurance, by breathing exercises in the physical therapy department, and by relieving conditions of existing stress by medical reclassification. Aphasia occurred in only three instances, and these patients recovered spontaneously after a few days in hospital. Deafness did not occur except as an hysterical addition to preexisting organic deafness. Visual disturbances were rare, being more commonly a feature of anxiety than of hysterical states.

> Amblyopia occurred in an officer who found he could not distinguish between the enemy and his own men. His vision was good for the details of landscape much further away, but he was not always able to read close print, as on a signal form. Whilst in action, just prior to his evacuation, he could not resist the impulse to pick up tin hats from the ground, attempting to place one over the hat which he was already wearing.
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> One man, after considerable pressure of laboratory work, developed malaria. He treated himself with "Atebrin", and after five days became almost blind. "Atebrin" suppressive treatment was given, together with reassurance and suggestion; his vision returned to normal in less than two weeks. He was relieved of microscopic work for two months.
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> An ordnance worker, unhappy in his job, and with considerable resentment towards the army concerning his future promotion, developed bilateral scotomata in which the blind areas were "green shimmering", and altered from day to day. He had previously in civil life undergone numerous examinations of the visual fields during routine investigation for migraine.

Motor palsies were uncommon. The onset was dramatic in all cases but two, and in all but these two instances it was possible to make a reasonable supposition as to psychogenesis. The patients all improved after a subconvulsive dose of "Cardiazol". Reeducational exercises and electrotherapy were employed as measures of suggestion to complete the recovery. There seems little doubt that the prognosis for recovery in hysterical motor palsies is excellent if treatment is commenced early. As with all other types of hysterical reaction, however, even though the symptom is removed, one is quite likely to be faced with the much more difficult problem of the basic personality, or with the development of secondary anxiety phenomena.

Hysterical analgesia occurred in ten instances. In each case it had previously been accepted as a sign of vitamin B_1 deficiency. There were numerous instances of true vitamin deficiency,

XUM

and in some of these analgesia in the extremities was present, together with œdema and diminution of the associated deep tendon reflexes. In the hysterical patients mentioned the distribution of this sign was anomalous, and vibration sense was found to be lost over a skin area exactly comparable to the area of loss of pain sensation. In treating these patients, one tended to disregard the mild form cases, and in the more intractable cases to give subconvulsive doses of "Cardiazol".

Hysterical behaviour disorders were seen much more commonly in the front line than in base areas, and accompanied acute stress. They took the form of screaming, of uncontrollable and confused action. It was rare to find such reactions persisting until the patient's admission to hospital. In two cases, however, a more prolonged disorder developed.

> Both these men showed a regression to infantile behaviour. One became almost speechless, and would communicate with others by use of the incomplete, ungrammatical speech of young children. Instead of saying "please take this", he would simply hold out an object and say "take"; he would repeat "I—frightened" or "me—hungry". He refused to leave a friend who brought him down the trail to the hospital, and the latter stated that at night the patient would whimper and would not sleep till he was allowed to curl up in the arms of his friend.
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> Another younger man showed a timid, childlike dependence on others, and would quietly follow them about the ward. His speech was slow and uncertain and his vocabulary was reduced to a minimum. When he wished to express ideas beyond his vocabulary, he would make signs or repeat phrases over and over again in a sing-song way.

Some patients with anxiety-hysteria presented rather different behaviour traits. They adopted a mood of "pseudo-depression". Speech was in dramatic monosyllables.

> One such patient would walk painfully into the office, slump down in a chair, place his head in his hands, and after a short pause declaim: "Finished!", or "All in!", or again, "I dare not live". When he was engaged in conversation about his stress in the front line, his depression would vanish and his speech would become rapid, colourful and animated.

Mention has been made of "Cardiazol" therapy in the previous discussion on hysteria. It may here be relevant to outline the way in which this form of treatment was used in hysteria and in other conditions in this series. It was employed as a convulsant, and also given in small dosage to produce pre-convulsion sensations without subsequent convulsions. In hysterical states, one or two convulsive seizures were induced. The basis of the use of "Cardiazol" was that it was a quickly applicable method of complementing treatment by suggestion. Early dramatic success in relieving hysterical mutism and confusion prompted its further use. Convulsion therapy was occasionally employed for those patients with anxiety states in whom there was a superadded state of mental depression. In many instances, depression would be relieved after several treatments, and psychotherapy was then more easily employed. In true depressive psychosis and schizophrenia, up to ten convulsive seizures were induced, the drug being administered every three days. In practice it was found that if improvement was to occur in these conditions in a reasonable time, it would do so after three or four injections. Subconvulsive dosage, two or three cubic centimetres of the drug being used, produced the well-known phenomenon of a "missed fit"—namely, sensations of giddiness, unreality, dread, and unorganized visual hallucinations. This measure was mainly employed for those patients in whose cases it was reasonably certain that there was considerable conscious addition to symptoms masking the true underlying picture of neurosis. It was used in hysteria associated with behaviour disorder, and particularly in those cases in which the line of demarcation between consciously and unconsciously determined behaviour was not definite.

It may be argued that "shock" therapy as described represents no more than coercive treatment, unpleasant sensations being used as the "rod", and that it is no advance on the methods of several decades ago. It makes no specific attack on the psychological disorder, but only suppresses its effects. The answer to this criticism is that the method, although it has failings, is an expedient developed as a means of producing rapid results. It is certainly not to be preferred to properly applied psychotherapy. As a means of producing responses in the suggestible hysteric, it is more conveniently applied than is hypnosis, when the hypnosis must be carried out in a tented office situated a short distance from the distracting sounds and activities of a busy hospital.

The problem of constitutional inferiority or psychopathy became very evident during the last six months under survey, and ranked next in importance to anxiety states as a reason for seeking medical attention. The term "constitutional inferiority" is used to include many forms of disorder. Some of these character deviations are gross, and come well within the term "psychopathic". Other less marked personality weakness is perhaps best described as "personality inferiority". Both types of condition present problems in any society, be it civil or military.

The first group, and by far the smaller one, includes the pathological liars, delinquents, thieves and perverts, and those men whose schizoid traits or asocial trends are so marked that, although they cannot be described as psychotics, they must be regarded as social "misfits". Such men had previously been unable to maintain a satisfactory relationship with civil society, and on entering the army had quickly demonstrated their failings in a medium where behaviour disorders more readily excite attention. They had seldom seen fighting service, and were a constant nuisance in their units. Some of these men were referred from field punishment centres or by courts martial after it had been decided that the usual disciplinary measures would be ineffective. Their disposal presented a difficult problem. Strictly speaking, these men are the responsibility of the army psychiatrist. But it is beyond even the peace-time psychiatrist to protect these individuals from the law, and it is impracticable to do so in the army. The only reasonable course is to discharge such men from the army as promptly as possible through non-medical channels. It has been observed in an earlier section that it is the function of the psychiatrist to exclude the psychopath from the army during the enlistment phase.

The other less severe group includes many types. They are the shy, the schizoid, the ineffective and the inadequate men, the gullible and simple butts of their fellows; they are the men who never fit into the spirit of military service, and who become either confused by it, or resentful and paranoid. They are the solitary men, environmentally handicapped, who have never learned to live with their fellows. Finally and most importantly, they are those generally infirm persons who physically and emotionally are not equipped to walk alone. They come from the ranks of the unfortunates who can exist only by a parasitic existence on another personality, be it mother, father or medical healer. Some are further hampered by environmentally determined mental defect. In army service, they are unable to direct even their own efforts; they become the despair of their senior officers and appear at the medical aid tent with disconcerting regularity. They drift from one job to another—and do all badly. In action, they are usually described by their officers as "useless" or "a menace", and they most commonly languish in a rear echelon. They often present symptoms suggesting bodily disorder. These might be termed anxiety features, but there is a difference. No evidence of overt anxiety is present and the symptoms are not presented with the force or persistence of the neurotic. They vary from day to day, and are withdrawn from circulation, as it were, with unrivalled calm, new ones taking their place in changing confusion. Occasionally one meets with the constitutional psychopath who presents emotional problems alone. He accepts an emotional explanation of his disability with avidity, and embarks enthusiastically on psychotherapy. The therapist finds, however, as he explores the personality, that he is dealing with something that is elusive and shallow, and that he is attacking problems which melt away overnight, only to be replaced by others. He finds himself attacking shadows that come from a changing substance. It is a waste of time to attempt to treat men who show marked constitutional inferiority. To discharge them from the army quickly is the solution, but there are difficulties and risks involved in this. Often these men differ from useful troops only in the degree of character deviation shown, and to discharge them is to induce other men to follow in their wake. This would lower unit morale and add to an already acute manpower problem. The disposal of these subjects of personality disorder calls for discrimination. For two reasons they should be referred to a skilled psychiatrist. Firstly, it is essential that a complete history of each man be taken in order to establish from the past record the presence of any long-standing personality disorder. If this is not done, the army will be forced to assume a post-war responsibility for

disability in these men, who will, naturally enough, claim that their disability is due to war service, and accordingly seek full pension advantages. As the disorder is an innate one, it will not respond to treatment or lessen with the passage of time as will a neurosis. Consequently, these men will remain a burden on society as long as a pension is paid. There is of course no doubt that in some cases aggravation by war service is present. The psychiatrist is in a position to estimate this and to suggest suitable compensation. Secondly, if it is possible to place such men in suitable jobs, it is the province of the psychiatrist to indicate how they may be best employed. As a general principle it is desirable to reclassify this group of "limited employables" medically, and if possible, to retain them in the base area of an operational zone where they can be supervised. To examine and to assess these men psychologically, and then to evacuate them to the uncertain fate of indiscriminate "B" class employment in a rear base area, results in the pooling of inefficient, disgruntled and unsatisfactorily employed men. Were manpower considerations of secondary importance, the ideal practice would be to eliminate from the army all men whom a reliable psychiatric authority had judged to be psychopathic.

Psychotic reactions occurred in just under 10% of all psychiatric casualties in New Guinea. Of these, almost all were schizophrenic in type. Early admission to hospital occurred for two reasons. In the first place, the onset in most cases was acute and dramatic. Secondly, as previously mentioned, any abnormality in behaviour was quickly noticed in the compressed social community which obtains in the army. Thus, men with acute reactions were examined within a few days of the onset, and less marked schizophrenic "queerness", which might have escaped the notice of a tolerant or protective family circle, was readily reported by the tent-mates of a soldier who was exhibiting such traits. It was found difficult to obtain a complete past history of some of these men, as they frequently arrived at hospital under restraint in the care of provost troops. In a few cases one could elicit a story of mild change in personality occurring over a period of some months. Approximately one-third of these men had become ill after acute battle stress. Most of them were under thirty years of age. The commonest presenting phenomenon was the appearance of a paranoid delusional scheme, usually involving the patient's surroundings, and often resulting in threats or attacks against his fellows. Some directed attention to themselves by writing to their superiors memoranda embodying plans for inventions or directions for higher strategy. Others reported the alleged presence of "spy-rings" and "fifth column" activities. Some became completely detached from the fact of war and plunged into a state of preoccupation with philosophical abstractions. Others, who had become quickly detached, apathetic and shiftless, were referred for medical opinion because they were "useless" or "undisciplined". A few were admitted in a state of catatonic excitement, others in a mute and inaccessible state.

In the absence of a complete past history, the diagnosis of the type of reaction was sometimes made in a retrograde manner, after the effects of treatment had been studied. It was then possible to obtain from the patient some idea of his thought disorder at the onset of the psychosis. Those men whose pre-psychotic history appeared reasonably normal, and who quickly had remissions with or without "Cardiazol" therapy, were regarded as suffering from transient superficial schizophrenic states of war. The transient reactions were frequently found to remit spontaneously in a week or ten days, or to be remitted after two or three seizures had been induced. It is supposed that the psychoses in these men were determined, to a large extent at least, by environmental conditions. In the remainder of cases, about one-third of the total, recovery was slow or did not occur after rest and treatment; in these cases it was assumed that the condition was an episode in a personality strongly predisposed by psychological, metabolic or other causes to such a reaction. It must be said, however, that it is probable that if more complete study of all the schizophrenic states had been possible, the number falling correctly into the latter category of predisposed conditions would be larger.

Three men in states of acute excitement were admitted to hospital with the suggestion that the condition was due to "Atebrin" intoxication, although the dosage of this drug had been only 0·6 gramme per week over several weeks, in the manner used to suppress malarial infection. All these men were treated by "shock" therapy, while the same dosage of "Atebrin" was still continued. Two, on partial remission, exhibited other features of schizophrenia. The other, on more careful history-taking, gave evidence of previous manic-depressive disturbances. In one case manic-depressive psychosis followed immediately on mild head injury; the psychosis was, however, of the "cycloid" type. Paranoid psychosis occurred in a patient in whom parasites of malignant tertian malaria were found. His delusions disappeared after two days of quinine treatment, but there was evidence that he had a marked schizoid personality with at least one previous period of schizophrenic behaviour. Short psychotic phases characterized by the presence of delusions and visual hallucinations occurred in patients suffering from mite-borne typhus. They were quite unassociated with other features which would suggest delirium or toxic confusion. Full recovery occurred during convalescence.

Depressive psychosis was uncommon; it was associated with attempted suicide in two out of five cases. All but one patient showed marked improvement after several induced seizures.

The treatment of psychotic states in New Guinea may be said to have included mental nursing, "shock" therapy with "Cardiazol", and simple occupational therapy when indicated.

Although the ward was a tented one, isolation of each restless patient in a small tented annexe was possible. Physical restraint was limited to the use of a restraining shirt in the early phases of excitement; this was discontinued as early as possible, additional male orderlies being utilized for individual observation of patients. Later, when a special ward was built, provision was made for five safe rooms, lined with "Masonite" and well ventilated. With the shortage of staff, treatment in such rooms still necessitated restraint; but this method was found to be less satisfactory than one allowing the patient more freedom under constant supervision by a male orderly.

Convulsion therapy was seldom continued beyond twelve seizures. All patients complaining of pain after treatment were radiologically examined, but no evidence of fracture was found. Dislocation occurred once at the shoulder joint and several times at the temporo-mandibular joint. Full insulin shock therapy was not used in the treatment of psychoses because of limitations of staff. Rear-base hospitals provide more suitable conditions for the utilization of this method of treatment.

Psychotic patients were, if possible, retained in the New Guinea area until they were sufficiently tractable to be evacuated to a mainland hospital by hospital ship. It was considered highly desirable to do this in order to avoid undue alarm on the part of relatives.

The results of treatment of neurosis and psychosis in the New Guinea series may be briefly outlined. Statistical details dealing with disposal of the patients have unfortunately not been finally compiled for the whole series. However, in 350 of the total 500 cases for which final figures were available, 85% of patients were returned to work in the area. Of this number, 48% were returned to their units as medically class "A"; 36% were reclassified to work in "B" class occupations on the island; the remainder, approximately 15%, were evacuated to Australia for more prolonged treatment. It is possible that the final total figure for return to "A" class duties will be somewhat lower, as the latter part of the series for which disposal figures are not yet available includes many cases of "personality inferiority".

The average length of stay in hospital was thirty days. It will be recalled that in Tobruk the period was three weeks, and in Palestine and Australia, the average stay was a little over three months.

The collected impressions of the work in the New Guinea campaign are these:

Our troops met a type of warfare different from that of the Middle East campaign without showing a significant increase in nervous disorder.

The stimulus producing fear states was different, and the reaction a little more severe and incapacitating.

The incidence of neurotic illness was found to be no higher in conscripted than in enlisted men.

Neurotic disorder occurred equally in men who had encountered battle stress and in those who had not. In the second group—base troops—features of psychological breakdown were present in the past history.

Studies of the effect of age on the incidence of neurosis revealed nothing of significance.

The ratio of officers, non-commissioned officers and men who developed neurotic illness, was the same as that obtaining

in any other medical illness. In those units whose officers developed a high proportion of illness, the incidence amongst the men was correspondingly high.

Hysterical reactions occurred more commonly than in Tobruk.

Constitutional inferiority was a much greater problem.

Treatment by both psychological and physical methods has a place in a forward hospital.

The results of treatment proved once more that there is definite scope in an operational area for useful psychiatric work.

Conclusion.

This essay attempts to indicate the place of the psychiatrist in army medicine. It submits that the psychiatrist plays an essential part in army medical service, whether that service is forward or at a base. His most useful location is, however, in a relatively forward area. His attitude and principles of management require some modification, in that his problems are not entirely comparable with those confronting him in civilian society.

The need for an understanding of personal psychological problems affecting men at war is not confined to those specially dealing in psychiatric medicine. It is the need of all men, medical and non-medical, into whose hands is placed the responsibility of controlling others.

It will be noted that little has been done to follow up the series of cases reviewed in this paper. No doubt such an investigation will bring some sobering surprises, and it will probably serve as a timely reminder of the enormous post-service problem which will confront psychiatrists. Even now, with the war not yet won, men are being discharged from the army with neurotic disabilities which will limit their capacity as bread-winners. Their success or failure in civilian society will depend on the energy with which measures of rehabilitation are prosecuted. The responsibility of the State is in no way discharged when a soldier is medically classified as unfit for military service. There is an urgent need for the further extension of social and rehabilitation services, to ensure that the neurotic repatriated soldier is fitted to earn a living to the full extent of his ability.

Days of peace will extend and magnify, rather than minimize, the problem. Not only will the community have to reabsorb those who have not responded to treatment, but new neuroses will develop in men who, remaining stable while wartime conditions provided in some measure for psychological needs, will break down when confronted again with the relatively trivial but nevertheless irksome responsibilities of civil life, which may demand that a man earn a hard living in a dull way. Under such conditions, the development of post-war neuroses is inevitable.

The nation is still paying for the neuroses directly or indirectly attributable to the last war. The burden following the present conflict will be far greater. The policy adopted after the last war was to pension the soldier and to treat him at a repatriation centre. It will be a great pity if we repeat this folly. There seems no doubt that to shackle the neurotic to his symptoms and disabilities by a monetary dole is a poor solution to his problem. It may be possible to avoid this placebo, if sufficient attention is given to the post-war training of unfit men for limited occupations. The situation will also call for the establishment of an organization of psychiatric social workers greatly in excess of the pathetically small group working today. There must be direct liaison between rehabilitation officers, social workers and responsible executives in the sphere of employment.

Society will best support the neurotic repatriated soldier by giving him constructive, creative and sympathetic service, rather than by paying him a fortnightly pension in an endeavour to forget him.

Reviews.

REHABILITATION.

"REHABILITATION OF THE WAR INJURED" is a symposium edited by W. B. Doherty and D. D. Runes.[1] The articles, all of which have already appeared in print in various medical journals of both the United States of America and Britain (with the exception of one short article by our Russian colleagues), are grouped under seven headings, as follows: (i) neurology and psychiatry, (ii) reconstructive and plastic surgery, (iii) orthopædics, (iv) physiotherapy, (v) occupational therapy and vocational guidance, (vi) legal aspects of rehabilitation, and (vii) miscellaneous. The last-mentioned section comprises two articles on vascular and neurological lesions in survivors of shipwreck by Commander J. C. C. White, of the United States Naval Reserve.

The majority of the articles have been written by masters of their subject; but there are some which are sketchy, or contain too much padding and no "meat". The major section is that devoted to reconstructive and plastic surgery; it includes an excellent and well-illustrated article on the uses of the tubed pedicle flap by Sir Harold Gillies, who also contributes a short article on nursing in plastic surgery and maxillo-facial injuries. D. Denny Brown, Professor of Neurology at Harvard University, has the most lengthy article in the book; it deals with sequelæ of war head injuries, and it is so interesting and important that the reader wishes there were more of it. The well-known paper upon some aspects of the problem of amputation stumps in relation to limb fitting, by R. Langdale Kelham, of the British Ministry of Pensions, is presented, and justly so, as it bears the seal of indisputable authority on this important matter.

It is interesting to note that of the seven articles in the section on physiotherapy, six are from British authors and the seventh, by Frank H. Krusen, of the Mayo Clinic, refers to rehabilitation of the chronically disabled.

Occupational therapy and vocational guidance are becoming of increasing importance and interest, and this section is comprised of fourteen papers, three of which deal with the problem of the tuberculous and two with ophthalmic lesions. Other papers are concerned with occupational therapy, reeducation, craft analysis and vocational guidance more directly applied to the wounded; they point the way to what must become a greatly widened field of work as the treatment of more of our wounded is completed and they are discharged from the army.

The immersion-foot syndrome has attracted a great deal of attention, and Commander White, who has had experience in Scotland and on the Western Atlantic seaboard of the United States of America, deals with the subject in an interesting fashion. He pays due tribute to Sir Thomas Lewis for his work published in 1941, which has provided a basis for the proper understanding of this peculiar condition.

Most of the articles have a good bibliography, so that readers interested in one particular subject are guided in their reading. The set-up of this book is good, and it is printed on excellent paper and in a type which facilitates reading. The illustrations have been well reproduced, and typographical errors are conspicuous by their absence. On the whole it is to be commended as a general reference book to all those whose work brings them in contact with the rehabilitation, not only of the sick or wounded soldier, but also of those civilians who have become part of the flotsam and jetsam of total warfare.

[1] "Rehabilitation of the War Injured: A Symposium", edited by William Brown Doherty, M.D., and Dagobert D. Runes, Ph.D.; 1943. New York: Philosophical Library. 9¼" × 6¼", pp. 684, with many illustrations. Price: 10s.

SURGICAL NURSING.

THE well-known book on surgical nursing by Dr. H. C. Rutherford Darling has reached its eighth edition.[1] The first edition appeared in 1917 and the seventh was reviewed in this journal in the issue of November 15, 1941. The present edition has, we read in the preface, been thoroughly revised and brought up to date. The success of this book is well deserved and the author will have satisfaction in knowing that he has met the need of nurses in many places for a work of this kind. The book has two main sections—one dealing with general surgical nursing and the other with regional surgical nursing. In certain special sections Dr. Darling has had the assistance of Dr. James Flynn, Dr. R. H. Bettington, Dr. E. A. Shipton, Dr. J. G. Edwards and the late Dr. Norman Royle. The appendix contains information on many subjects which a nurse will find most useful.

[1] "Surgical Nursing and After-Treatment: A Handbook for Nurses and Others", by H. C. Rutherford Darling, M.D., M.S. (London), F.R.C.S. (England), F.R.F.P.S. (Glasgow); Eighth Edition; 1944. London: J. and A. Churchill, Limited. 7½" × 4¾", pp. 696, with many illustrations.

The Medical Journal of Australia

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All articles submitted for publication in this journal should be typed with double or treble spacing. Carbon copies should not be sent. Authors are requested to avoid the use of abbreviations and not to underline either words or phrases.

References to articles and books should be carefully checked. In a reference the following information should be given without abbreviation: Initials of author, surname of author, full title of article, name of journal, volume, full date (month, day and year), number of the first page of the article. If a reference is made to an abstract of a paper, the name of the original journal, together with that of the journal in which the abstract has appeared, should be given with full date in each instance.

Authors who are not accustomed to preparing drawings or photographic prints for reproduction are invited to seek the advice of the Editor.

THE NERVOUS DISORDERS OF SERVICE PERSONNEL: AN URGENT PROBLEM.

No one in the community will dissent from the proposition that members of the forces who are wounded or contract disabling medical disease in the course of their service, shall receive proper treatment so that on demobilization they shall be in as fit a condition as their disability will allow to take their places as competent working members of society. It will also be agreed that those who suffer permanent disability on account of their service shall receive a pension in proportion to the degree of their disability. With most wounds and in many medical conditions the assessment of degree of disability from the purely medical point of view is not particularly difficult. That what is known as "entitlement" to a pension is not solely a medical matter is well known and introduces complications. With these we need not at the moment be concerned. One important consideration, however, must be borne in mind. Human nature being what it is, the interests of the individual are best served if the decision in regard to the payment of a pension and its amount is not made until recovery is complete, or if this is not practicable, until treatment has been carried out for a sufficiently long period to allow a fairly accurate estimate to be made of the degree of success that will be attained by it. This has been emphasized by Colonel A. Graham Butler in the third volume of his "Official History" when he quotes an experienced officer of the Repatriation Department who stated that "no treatment does a pensioner any good". In support of this "caustic epigram" Butler quotes S. F. McDonald, who wrote in this journal in 1930 that the final problem of the "war-worn" ex-soldier and of pensioners as a whole was: "What is possible in the way of treatment?" To his own question McDonald answered, "very little". When such views can be held about pensions of all kinds, it will be obvious that the greatest possible difficulty may arise in the final treatment of soldiers and other service personnel who suffer from nervous disorders. Unfortunately persons falling into this category are likely to be numerous. In his "Official History" Butler discusses disorders of the nervous system under the title of moral and mental disorders. He points out that since the last war the incidence of disorders of this type has in its total influence achieved almost a three to one predominance over that of all other types. He adds that it is hardly too much to say that the present pension problem is essentially a "moral and mental" one; this, he states, relates to both pensions and treatment. Among those who foresaw what would happen and tried to guard against it, was the late A. W. Campbell, preeminent in his day as a neurologist. Discussing patients of this type and their treatment on transports, on disembarkation and prior to discharge, he insisted that this was a continuous critical period, during which the men ought to be guarded with the utmost tact and circumspection against themselves and their friends and a grateful country.[1] Butler refers to Campbell's views more than once. In his third volume he states that the "salutary warning" given by Campbell did not save the first Australian Imperial Force from the hurt which he so clearly foresaw, and (he adds) "the warning is no less necessary today".

In his Stawell Prize Essay published in this issue, Colonel A. J. M. Sinclair gives a first-rate description of mental disorders as observed by him in several spheres of activity. His description of work in Tobruk is particularly valuable because it shows how successful treatment can be in the most forward areas when it is conducted on right lines. Further, as Sinclair himself points out, his experiences confirm the belief that the favourability of prognosis varies inversely as the distance from the front line at which treatment is commenced. That in Tobruk 61% of patients with psychiatric disorders returned to their units and remained there for a period of two months or longer, and that in New Guinea 85% of the patients returned to work in the area, must be regarded as most satisfactory and as reflecting great credit on the medical personnel. It is important to note that the warfare in New Guinea was "a struggle, not of units, but of individuals". The conditions certainly called for a display of cunning, of personal aggressiveness and of courage of the highest order. Most of the men, Sinclair observes, quickly proved that they possessed these qualities. Those who developed serious and sometimes incapacitating mental difficulties were those whose success as soldiers depended on the momentum of a herd. It is of interest in this regard to note that in New Guinea neurotic disorder occurred equally in men who had encountered battle stress and in those who had not. Obviously the front line troops were men of a higher medical grading. The second group consisted of base troops, and features of psychological breakdown were to be found in the past history. Two observations by Sinclair in regard to the work in New Guinea are worthy of emphasis—the first, that studies of the effect of age on the incidence of neurosis revealed nothing of significance, the second, that the incidence of neurotic illness was found to be no higher among conscripted than among enlisted men. Attention should also be drawn to Sinclair's observation that the rapidly growing pool of "B" class personnel at present in Australia contains a large number from the ranks of the

[1] THE MEDICAL JOURNAL OF AUSTRALIA, April 15, 1916.

psychologically unsound. He doubts whether they can all be used economically. To obviate this he suggests that more rigorous criteria should be adopted for medical reclassification from a higher to a lower category—"if by such criteria a man is unsuitable for front line duties, he should be discharged from the army".

In any discussion on what shall be done in regard to service personnel of this war who are affected by mental disorders, what may be called the general community aspect of the whole question must be borne in mind. The Army, and for that matter the other two branches of the services as well, no doubt have their own conceptions of the limits to which their responsibilities should extend. In the recruitment of men for the services, certain examinations are carried out and an attempt is made to exclude persons whose past medical history and whose physical and mental condition are of such an order that they will be ineffective units of the fighting machine. Persons admitted to the forces are not all classifiable as first-class lives. There is room in most branches of the services for many who do not fulfil all the requirements of a fighting man, and large numbers of these persons fill important posts and do excellent work. At present we are considering mental aspects only, and it is common knowledge that recruits are not always truthful about their previous mental histories. A certain amount of what has been described as "poor stuff" has always been admitted to service ranks. When these persons become casualties during their term of service they are still a liability to the community, whether they are regarded as entitled to full service benefits or not. We know quite well that these persons, in common with all others in the services who become affected by nervous disorders, need to be adequately treated before they are discharged to join the ranks of civilians and to compete with others for a living; if they do not receive this treatment, they will never meet with any success. To discharge such a person and to give him a pension instead of treatment is to condemn him to a life of suffering in which he will be a misery to himself and a sore trial to those among whom he will live. Such a policy looks like an easy way out; it may appeal to well-meaning persons, full of misguided sympathy, but it is more than stupid, it is wicked in that it inflicts a deliberate and permanent hurt on one who might otherwise be recovered of his disability. Certain requirements may shortly be stated as likely to favour recovery and minimize suffering. In the first place no pension should ever be considered for the soldier with a nervous disorder until he has undergone a period of skilled and appropriate treatment. This treatment should be carried out in special hospitals where the patients would be resident and not out-door patients, and the resident staffs of these hospitals should include a sufficient number of trained psychiatrists. Secondly, hospitals of this kind should be in close liaison with an interested and capable employment agency. If such an organization could be brought into being and used with enthusiasm and wisdom, it might be possible to create something that is almost as essential as the organization itself—a new mental outlook, for patients and public alike, that will expect recovery instead of compensation. It was this kind of outlook for which Campbell pleaded in 1916. It was this of which Colonel H. Hume Turnbull spoke in his Bancroft Memorial Lecture of 1941 when he took as his subject "Fear as a Factor in Disease". Towards the end of his address he used the following words:[1]

> Many of us have had experience in the treatment of soldiers and in repatriation problems; all of us have had the opportunity of seeing and hearing these things, and should be able to realize that a war pension is a calamity and not in any way an asset to a good man, and that a vast number of pensions need never have been given if the men had not felt that they were damaged and could not exert themselves safely.
>
> No doubt new causes for fear will arise this time, and we shall be told that it is impossible that men should have been subjected to their influence without permanent damage; but if the medical profession, as a whole, will refuse to accept any such theory till it is shown to be true and will reassure the patients rather than reinforce their fears, there is little doubt that the number of permanent invalids among returned men will be greatly reduced and the sum of human happiness greatly increased.
>
> Such an attitude will be unpopular; the men may feel that we are unsympathetic and antagonistic, but if the profession as a whole refuses to be stampeded into accepting lay dictation, whether military or civil, many fine men will be saved lives of misery and fear and be restored to active, self-respecting and successful toil.

One remaining aspect must be mentioned. If the observations made on ordinary service personnel did not justify the views that have been expressed in this discussion, ample reason would be found in the special conditions with which we shall be called upon to deal when our Australian prisoners of war come home to us from Japanese hands. P. H. Newman has recently described in a telling fashion what he calls the prisoner-of-war mentality.[2] There is no doubt that a number of those who do come back to us will be utterly broken in spirit. For them time stands still, and it will appear to some of them that they are returning to an unsympathetic, if not almost a hostile, community. The medical profession, the Government and whole community should move in this matter of mental disorders among service men and women to create the special machinery that is needed. The services and the Repatriation Department have their psychiatrists; but they are swamped with work and have little opportunity for treatment. Their opinions on prognosis and diagnosis, incidentally, have been described by leading practitioners as most valuable. We understand that the Australian Red Cross Society is making certain plans—the society is certain to be well to the fore in matters of this kind. If, as Butler writes, mental conditions overshadow all others among causes of disability, they should take precedence over all others in the matter of treatment. The medical profession must take the lead in seeing that this is made possible.

Current Comment.

FIBRIN "FOAMS", FIBRIN "FILMS" AND THEIR USE IN NEUROSURGERY.

THERE is no need in these latter days to lay emphasis on the specialized nature of modern neurosurgery. Were an attempt made to do so, interest would no doubt centre chiefly around the wide range of conditions which have become amenable to treatment, and mention would also be made of the relief that awaits those suffering from these conditions who put themselves in the hands of skilled neurosurgeons. On the technical side discussion would be devoted to the surgeon's use of endothermy, of suction and of the silver clip in the arrest of hæmorrhage. Neuro-

[1] THE MEDICAL JOURNAL OF AUSTRALIA, August 9, 1941, page 131.
[2] *British Medical Journal*, January 1, 1944.

surgery has not been perfected, but workers are continually striving to improve its technical procedures. Among the problems whose solution is sought are those connected with the arrest of hæmorrhage and the prevention of meningo-cerebral adhesions. The latest contribution to the solution of these problems comes from F. D. Ingraham and O. T. Bailey, who, in the first issue of the *Journal of Neurosurgery*, mentioned elsewhere in these columns, publish the twenty-seventh paper in a series of studies on plasma proteins emanating from the department of physical chemistry of the Harvard Medical School. They report the use of fibrin "foam" as a hæmostatic agent and fibrin "films" as a dural substitute and for use in the prevention of meningo-cerebral adhesions. Both the foam and the film are materials derived from the proteins connected with the clotting mechanism. They may be varied considerably by small alterations in the conditions of their preparation. The fibrin foam is a spongy substance, and the film is pliable, elastic and translucent.

Discussing fibrin foams first of all, Ingraham and Bailey point out that bleeding from medium-sized vessels in the central nervous system and its coverings can as a rule be satisfactorily controlled by the conventional methods of hæmostasis, such as the use of silver clips and electrocoagulation. Trouble arises with vessels on the surface of the dura and in the substance of the brain and spinal cord. Ingraham and Bailey enumerate and discuss shortly the methods that have been used to control bleeding from these vessels. Pressure from cotton pads soaked in saline solution is often successful, but not always—oozing may start again when pressure is removed and much time may be lost. The application of muscle, as practised by Cushing, is effective; the muscle becomes absorbed. It is not always immediately available in sufficient quantities and it causes an appreciable tissue reaction. Fibrin tampons, as prepared by Gray and Harvey from animal and human fibrin, were effective and caused less reaction than muscle, but have never been widely used. Putnam made an advance when he used a soluble cellulose soaked in thrombin solution, the thrombin being either of human or of animal origin. The soluble cellulose was prepared by the oxidation of cellulose by nitrogen dioxide. Putnam's results were satisfactory and Frantz found that the cellulose was rapidly absorbed and produced minimal tissue reaction. Bering has prepared an absorbable hæmostatic agent from materials entirely of human origin, and it is this which Ingraham and Bailey have used. The fibrin foams are prepared from human fibrinogen and human thrombin. In the dry state they are composed of dense strands of fibrin fibres with air spaces that are easily visible. The foam is dull, porous and slightly brittle. The foams are supplied in the dry state and with them is a small vial containing dried human thrombin. Before an operation at which foams are likely to be required the thrombin is dissolved in physiological saline solution. Portions of the foam are then placed in the thrombin solution. As the foam becomes saturated a moderate amount of shrinkage occurs; the thrombin solution penetrates to all parts of the mass. Ingraham and Bailey record the results of experiments on monkeys. Incidentally they compared the tissue reactions of soluble cellulose soaked in thrombin with those following the use of fibrin foams soaked in thrombin and found the latter more satisfactory. In clinical studies on human subjects they first of all used thrombin solution alone and applied it with cotton wool. This was not satisfactory. They then used the fibrin foam prepared in the manner just stated. With every type of hæmorrhage they had striking and complete success. The number of surgical operations in which the method was used was 95; and in 18 instances material for examination was subsequently obtained at reoperation or at autopsy. Practically no detectable tissue reaction occurred other than would be expected from the operative procedure itself. The fibrin foam was equally effective whether it was used alone or with bactericidal agents such as sulphadiazine and penicillin.

The section of Ingraham and Bailey's paper on fibrin films is, if possible, more interesting than the first section. The solution of the problem of finding a substitute for *dura mater* will also be conceded as more difficult than the arrest of hæmorrhage. In neurosurgery of civilian life the problem will arise often enough with the removal of cerebral tumours, but in the injuries of war, dural substitutes will be more frequently required. The substances that have been used to replace *dura mater* include *fascia lata*, dural transplants, preserved dura, fat, periosteum, amniotic membrane, "Cargile membrane", metal foils of various kinds, "Cellophane" and rubber tissue. These substances are enumerated by Ingraham and Bailey, who quote the conclusion of Pudenz and Odom that although some of the materials showed promise, none could be considered as having offered a solution to the problem. The fibrin films used by Ingraham and Bailey in their experimental and clinical investigations are prepared in sheets of various sizes and thicknesses. They are composed of two parts—a protein part and a plasticizing agent. The protein part is at least 90% fibrin. When the films are prepared the remainder is composed of glycerol. The immersion of the films in water or saline solution removes the glycerol. The films are smooth, translucent, uniform sheets with a considerable amount of elasticity. They can be sutured without being torn and can easily be trimmed to fit a dural defect. Ingraham and Bailey used the films first of all in monkeys and obtained satisfactory results. They then used them in the treatment of 44 patients. At first the films were used in relatively hopeless situations or in procedures which were likely to be followed by a second operation. In general they were used when dura had to be removed or when cortex was left unprotected because of retraction of dura. Though the results were satisfactory, Ingraham and Bailey are cautious in assessing them. Patients in whose cortex film has been in position for six months have shown no evidence of cortical irritation. The conclusion stated is that fibrin film is superior to other materials previously tested.

A NEW JOURNAL DEVOTED TO NEUROSURGERY.

THE first issue of the *Journal of Neurosurgery* has been received. It bears the date, January, 1944, and will be issued in six bi-monthly numbers *per annum*. In the editorial note accompanying this first issue it is pointed out that during the past thirty years neurosurgery has become a firmly established branch of medicine, and that for more than a decade the need for a special journal has been felt. The *Zentralblatt für Neurochirurgie*, which was established in 1936, was the only journal devoted to the subject; it was in existence in 1939, but since then it has not been in evidence. A good point is made with the statement that since the outbreak of war there has been less interchange of thought between British and American neurosurgeons than before and in each country between individual neurosurgeons. In these circumstances medical journals become increasingly necessary; this need is felt chiefly by medical officers in the several services. The Harvey Cushing Society is responsible for the birth of this new journal which will eventually, it is hoped, be world-wide in its scope. Gilbert Horrax, of Boston, is chairman of the editorial board, and the four other representatives are A. Asenjo, of Chile, and K. G. McKenzie, of Toronto, as well as W. McK. Craig and R. G. Spurling, of the United States. The Advisory Board consists of A. W. Adson (Rochester), Hugh Cairns (Oxford), C. C. Coleman (Richmond), G. Jefferson (Manchester), H. C. Naffziger (San Francisco), H. Olivecrona (Stockholm), W. Penfield (Montreal) and E. Sachs (St. Louis). Louise Eisenhardt is managing editor. With such distinguished persons at its head this journal is bound to achieve success. That there is room for it is beyond question. The first of the eight important articles in this first issue deals appropriately with Harvey Cushing's contributions to neurosurgery. The journal is excellently produced on good paper. It is published for the Harvey Cushing Society by Charles C. Thomas, of Springfield, Illinois, United States of America. We wish the new venture every possible success.

Abstracts from Medical Literature.

MEDICINE.

Treatment of Addison's Disease with Desoxycorticosterone Acetate.

REGINALD A. SHIPLEY (*The American Journal of the Medical Sciences*, January, 1944) presents a report on the treatment of seven patients suffering from Addison's disease with pellets of desoxycorticosterone acetate. The pellets were inserted subcutaneously in the infrascapular region through an incision one centimetre long. The pellets were implanted immediately after the period of diagnostic study, and if within a few weeks or months there was no degree of improvement, additional pellets were inserted. Optimal dose was considered to be that amount of hormone which, without signs of overdosage, maintained normal levels of plasma chloride, blood urea nitrogen, hæmatocrit readings, and blood pressure, and which gave a maximum degree of subjective improvement with moderate gain in weight. The initial dose was one or two 150 milligramme pellets or two to four 75 milligramme pellets, and the maximum number implanted in any patient was four of the larger pellets and six of the smaller. After leaving hospital, the patients were allowed free choice of food, and the amount of salt ingested was derived from the salt that was intrinsic in the foodstuffs together with what they chose to add to suit their tastes. This varied from eight to twelve grammes of sodium chloride per day, as estimated from urinary excretion of chloride, while salt intake and output were presumed to be in balance. When the pellets were nearing the final stage of dissolution, weakness and anorexia sometimes appeared, but these symptoms were temporarily controlled with extra salt until the time when it was deemed advisable to insert new pellets. In several instances, new pellets were implanted at the end of nine or ten months without removal of the old ones. Signs of overdosage did not occur. Five of the series of seven patients were well maintained for seven to forty months and were able to carry on work involving moderate physical activity. The other two patients were not satisfactorily maintained either by pellets or by the compound administered by injection, and both of these patients died from the disease. One patient died after an attack of appendicitis at a time when he appeared to be convalescing satisfactorily. The author states that patients under therapy with pellets of desoxycorticosterone acetate may easily be thrown into hypoglycæmia by fasting, and that they are particularly vulnerable in the presence of an infection. Apart from its failure to restore normal carbohydrate metabolism, desoxycorticosterone acetate is deficient in other respects, the symptoms of the disease cannot be controlled in all cases, and death cannot invariably be prevented irrespective of what dose is used. Some cases of Addison's disease also do not respond to cortical extract. The effective life of the 75 milligramme pellet is approximately nine to ten months, the average daily absorption is 0·21 milligramme per pellet, the average number of pellets required is four to six, and the rate of absorption is reasonably constant from patient to patient and from pellet to pellet.

The Mortality in Medically and Surgically Treated Hypertension.

NATHAN FLAXMAN (*Annals of Internal Medicine*, January, 1944) compares the mortality among hypertensive patients medically treated with that of those treated by so-called specific surgery. He comes to the conclusion, after a follow-up study of 244 selected cases for a period of five to ten years, that there is little difference in the mortality of the two groups, and that it is doubtful whether so-called specific surgery alters the course and prognosis in cases of hypertension, including those of malignant hypertension.

The Treatment of Angina Pectoris.

JOSEPH E. F. RISEMAN (*The New England Journal of Medicine*, October 28, 1943) has since 1933 made objective studies of the value of treatment in *angina pectoris* in a special clinic of the Beth Israel Hospital. To date, sixty-eight different methods of chemical, physical and surgical therapy have been studied by clinical and objective procedures that permit unbiased comparison of effectiveness. An objective evaluation of the efficacy of treatment of *angina pectoris* carried out over a ten-year period shows that 27% of patients respond strikingly to practically all available forms of therapy, 33% respond to a moderate degree, and 40% usually fail to respond appreciably. This variation in therapeutic response should be taken into account in any study of the efficacy of treatment of *angina pectoris*. The clinical evaluation of the efficacy of therapy is extremely difficult and unreliable. Nothing short of complete or almost complete disappearance of attacks can be considered as a favourable response, and it must be remembered that such periods may be spontaneous and not related to treatment. Of the sixty-eight methods evaluated, twenty were found to be of considerable value, twenty-two were of slight value and twenty-six were of psychological value only. In medicinal therapy the most suitable drugs are nitroglycerin (one four-hundredth of a grain every hour), theobromine and sodium acetate (seven and a half grains four times daily), quinidine sulphate (three to five grains four times daily), atropine sulphate (one one-hundred-and-fiftieth of a grain four times daily), enteric coated potassium iodide (1·0 grain four times daily), cobra venom (given intramuscularly) and the sedatives. Few patients require surgery. Total thyreoidectomy is of considerable value for selected patients. The paravertebral injection of alcohol gives symptomatic relief to others.

Cold Vaccines.

L. C. MCGEE, J. E. ANDES, C. A. PLUME AND S. H. HINTON (*The Journal of the American Medical Association*, February 26, 1944) discuss the effect of vaccines on the prevention of the common cold. The authors state that there has been no convincing evidence that the administration of vaccines to prevent the common cold has any beneficial effect. In this report they state that three oral vaccines and two vaccines for parenteral administration were tried on a group of office and industrial workers. Other groups of persons were given a *placebo* by mouth, and others were left untreated altogether. The results during two years, 1942 and 1943, gave no clear evidence of protection from colds by any of the methods used.

Acute Myocardial Infarction.

SAMUEL BAER AND HAROLD FRANKEL (*Annals of Internal Medicine*, January, 1944) review the clinical picture and diagnosis of acute myocardial infarction as obtained from the observation of a series of 378 patients affected by the condition. The incidence of males to females was three to one. Myocardial infarction occurred at a later age period in women, the average age for women being 61·6 years and for men 56·7 years. The immediate mortality roughly increased with advancing years, and was slightly greater among women. Pain was noted in 90% of the cases, dyspnœa in 76%, and cyanosis in 46%. Temperature was elevated in 66%, tachycardia occurred in 47%, hypertension and cardiac failure were much more frequent among the women than among the men and friction rub was present in 12% of all cases. Half the patients were admitted to hospital with a diagnosis of acute myocardial infarction, and 20% were admitted with a diagnosis not referable to the heart.

SAMUEL BAER AND HAROLD FRANKEL (*ibidem*) present an evaluation of laboratory procedures as diagnostic aids in acute myocardial infarction, based upon a series of 378 cases of this condition. They found that 74% of the patients had leucocyte counts above 10,000 per cubic millimetre, and that if seen at the optimum time, 95% or more exhibited leucocytosis; 95% of patients had a rapid sedimentation rate, 32% had hyperglycæmia, and the electrocardiogram was diagnostic of acute infarction in 94% of cases.

The Prognosis in Angina Pectoris.

PAUL D. WHITE *et alii* (*The Journal of the American Medical Association*, November 27, 1943) have followed up 497 patients suffering from *angina pectoris* who were first observed between the years 1920 and 1930. Four hundred and forty-five are dead, the average duration of the condition to death being 7·9 years. Fifty-two are still living with an average duration from the onset of the disease of 18·4 years. The average duration to date for the combined dead and living is 9·0 years, and this will ultimately increase when all the present survivors succumb. This is a duration of life about double that at present widely regarded as the expectation of life after *angina pectoris* first appears. Of the deaths, 67% were due to cardiac causes. Approximately one-fifth of the entire group had normal cardiac findings, blood pressures and electrocardiograms at the time of the first examination, and these patients as a rule lived longer. *Angina pectoris* decubitus was found in 20·6% of the 497 cases, but there were no significant differences in the average duration of

the disease to death or in the living between this group and that of the group as a whole. The authors are convinced that coronary heart disease, whether shown by the *angina pectoris* of temporary coronary insufficiency or by myocardial infarction with subsequent scarring, is actually in major part and in the majority of cases an acute or subacute rather than a chronic disease, though frequently recurrence takes place. Special care over these acute or subacute phases is the most important part of the treatment replacing the old fatalistic point of view.

Scarlet Fever.

M. HAMBURGER, C. H. HILLES, V. HAMBURGER, M. A. JOHNSON AND J. G. WOLLIN (*The Journal of the American Medical Association*, February 26, 1944) have discussed the ability of different types of hæmolytic streptococci to produce scarlet fever. Six hundred and seventy-two throat infections (pharyngitis or tonsillitis) were investigated in a military camp, that is to say, practically all the sore throats in a small isolated community. The streptococci found were classified according to groups, from group 1 to group 46, and the number of cases of scarlatinal rash for each group was noted. Types 3, 19 and 17 caused most of the scarlet fever in the season 1942-1943; in the previous season types 18 and 1 were among the causative types. It appeared, however, that all types of group A streptococci did cause scarlet fever at times, and that in different places different types could cause scarlet fever. Types 3 and 17 caused the majority of cases in this particular district and season.

Graves's Disease with Special Reference to its Ophthalmic Component.

J. H. MEANS (*The American Journal of the Medical Sciences*, January, 1944) discusses the nature of Graves's disease with special reference to its ophthalmic component, and states that seemingly the malady is determined, to some degree, by inherited constitution together very likely with some environmentally imposed stress which the given constitution cannot accept without departure from the healthy state. Hyperplasia of the thyreoid appears to be a characteristic feature, and usually, but not always, there is production of hyperthyreoidism. The behaviour of the thyreoid is very likely secondary to humoral stimulation from the anterior pituitary gland, and the overactivity of the latter may well be due to a nervous impact reaching it via the hypothalamus. The response to any stimulus which sets off the disease may follow a different course in one individual from that in another. The ophthalmic portion of the disease is interesting and mysterious, and is of great importance from the point of view of therapeutics. It is fairly evident that swelling of the extraglobal orbital contents, especially the extrinsic muscles, is a major immediate cause of exophthalmos, and weakness of the muscles with decreased back-pull is probably another and indeed a primary cause. The cause of these local changes is not so clear, and certainly they are not the result of thyreotoxicosis *per se*. The thyreoid hormone is diuretic in action, and should decrease rather than cause swelling. Considerable evidence supports the view that an excess of thyreotropic hormone has something to do with the ophthalmic pathogenesis, but the relationship is probably not a simple one. The reason why some cases follow what the author defines as a classic course and others an ophthalmic course, may be related in his opinion to differences in the response of the thyreoid cells to the action of the thyreotopic hormone of the anterior pituitary. In the classic type, this hormone stimulates the cells, and they produce an excess of their hormone which inactivates the thyreotropic hormone, and this is excreted in the urine. In the ophthalmic type, the production of thyreoid hormone is not increased, the thyreotropic hormone is not inactivated to the same degree and the latter is excreted in the urine in its active as well as in its inactive form. At the same time, excess of thyreotropic hormone aggravates the ophthalmic situation. The author states that the best form of therapy in this disease may be quite different in different cases, and that while subtotal thyreoidectomy may be the best treatment available at present for many patients, it is in other cases not only not helpful, but very likely harmful.

Treatment of High Blood Pressure by Nephrectomy.

W. SENSENBACH (*Archives of Internal Medicine*, February, 1944) has sought to evaluate the method of treatment of high blood pressure by the removal of a diseased kidney by a review of some of the literature and a study of four patients of his own. He concludes that the operation is rarely indicated. If reasonable success is to be obtained the diseased kidney should be functionless or nearly functionless, the opposite kidney should function normally and the high blood pressure should be of short duration. The younger the patient, the greater the chances of a favourable result. The removal of a kidney which retains some function is likely to increase the blood pressure rather than diminish it, even though the function of the opposite kidney is normal. In only six of 75 reports in the literature of successful operations was the patient reported to have normal blood pressure two years or more after the operation; some had been followed up for only a few weeks; in 23 the blood pressure had fallen after operation, but not to a normal level, and the reduction was not more than might have been produced by rest.

Fluid Dynamics in Chronic Congestive Heart Failure.

J. V. WARREN AND E. A. STEAD (*Archives of Internal Medicine*, February, 1944) attempt to explain the œdema, increased plasma volume and elevated venous pressure in certain patients with prolonged congestive heart failure on grounds other than those frequently postulated, namely, a damming up of blood in the veins from diminished cardiac output, decreased colloid osmotic pressure and increased capillary pressure. They state that the first sequel of decreased cardiac output is a failure of the kidney, not due to venous engorgement and as yet unexplained, to excrete water and salt in a normal fashion. The increase of the plasma volume is a manifestation of retention of salt and water. The resulting decrease in concentration of the plasma proteins usually stimulates production of plasma protein so that the total amount of circulating protein increases. The plasma volume is thus increased without much lowering of the osmotic pressure of the plasma proteins. In due course the increase in the blood volume and in the extracellular fluid volume causes a rise in the venous pressure. In acute heart failure the increase in venous pressure may be due to other causes, and the altered fluid dynamics of acute heart failure may be superimposed on those of chronic heart failure.

Falciparum Malaria.

H. MOST AND H. E. MELENEY (*The Journal of the American Medical Association*, January 8, 1944) discuss malignant or falciparum malaria. *Plasmodium falciparum* grows in the blood for twelve to twenty-four hours and then disappears into the capillaries where the infected red cells adhere to the sides of the capillaries and to one another. The very large number of parasites in this type of disease thus often leads to blocking of capillaries in brain, intestine or heart. The irregular temperature in this disease is due to the less uniform completion of the asexual cycle in this type of parasite. Cerebral symptoms may be stupor, coma or convulsions. Stiff neck and signs of an upper motor neurone lesion or of meningitis or encephalitis may occur. Mental symptoms are frequent. Respiratory infection may be stimulated. Nausea, vomiting and diarrhœa, with severe abdominal pain, may simulate an acute abdominal emergency. Treatment in uncomplicated cases should be with "Atebrin", two tablets of 0·1 gramme every six hours for five doses with food or sweet fluids, then one tablet of 0·1 gramme thrice daily after meals for six days. If the patient cannot take "Atebrin" owing to vomiting or diarrhœa, totaquine 1·5 grammes are given thrice daily for three days, followed by one gramme thrice daily for four days or one gramme of quinine is given thrice daily for three days and 0·6 gramme thrice daily for four days. With vomiting, diarrhœa or cerebral complications, "Atebrin" dihydrochloride, 0·2 gramme, should be given into each buttock and repeated in six or twelve hours. As soon as possible oral administration should commence and up to a total dose of one gramme be given in twenty-four hours, followed by 0·1 gramme thrice daily up to 2·8 grammes in all. If "Atebrin" is not available, quinine dihydrochloride 0·6 gramme in 200 cubic centimetres of 5% dextrose in isotonic saline solution is given very slowly. This may be repeated in four to six hours if there is no improvement. "Atebrin" or quinine by mouth should follow. Blackwater fever should be treated with sodium bicarbonate given by mouth or 500 cubic centimetres of 2% solution in normal saline given intravenously. If anæmia is severe, blood transfusion may be given, though hæmolysis of the donor's red cells is likely to occur.

British Medical Association News.

MEDICO-POLITICAL.

THE Victorian Branch of the British Medical Association recently appointed several committees to report on the additions which have been deemed necessary to existing consultant, general-practitioner and hospital services to provide a medical service of optimum efficiency for the people of Australia. The first of these reports, dealing with group practice, was published in last week's issue. The second report dealing with housing is as follows.

Report of Special Committee on Improvement of Housing Conditions.

1. There is a great and increasing shortage of houses throughout the State, with consequent over-crowding, and much of the existing housing, particularly in the older parts of the city, is old and dilapidated and grossly defective in the light of modern standards of hygiene.

2. Existing housing conditions are extremely damaging to the health of large sections of the people. They are responsible directly and indirectly for lowered vitality, fatigue, inefficiency, lack of resistance to infection, the spreading of infectious diseases and high infant mortality. They are conducive of crime, immorality and the greater frequency of accidents.

3. Recent efforts to improve housing conditions are utterly inadequate. They have been executed without reference to any properly coordinated plan for regional and local development and without adequate provision for social amenities and needs.

4. From the point of view of healthy living the metropolitan area of Melbourne has become overgrown and sprawling, involving burdensome daily travel and fatigue for many citizens and making access to open country increasingly difficult. It is widely recognized that for a well-planned city there is an optimum size having regard to the cost of services and health conditions for the inhabitants. Melbourne has already outgrown this size.

5. The dilapidated and unhealthy condition of the housing over large areas in the inner suburbs of Melbourne is such that the areas should be dealt with by wholesale demolition, replanning and reconstruction.

6. The primary need in relation to housing is that there should be set up without delay a properly constituted planning authority with ample statutory powers and that this body, on the advice of experts, should formulate master plans for the future development of the metropolis and for other areas.

7. The housing problem, particularly in the inner metropolitan areas, is of such great extent and urgency that the central planning authority should, as soon as possible, delegate responsibility for local and detailed planning, to subsidiary authorities, preferably associated with the local municipal authorities, who would work in cooperation with the central authority and in conformity with the master plan.

8. Early consideration should be given to the mass production of equipment (hot water, heating, cooking, laundry *et cetera*) for low rent housing.

9. Since the work of housing and rehousing will afford one of the greatest and most desirable and stimulating avenues for the employment of idle resources on the cessation of hostilities, it is urged that the setting up of the necessary planning authorities and the preparation of the plans should be undertaken without any delay.

10. As a matter of urgency, owing to the damaging effects of existing conditions on the child life of the community, housing accommodation should be increased immediately and communal facilities for bathing and washing of clothes should be provided where required.

ADDITIONS TO VICTORIAN BRANCH LIBRARY.

THE following books have been added to the library of the Medical Society of Victoria (the Victorian Branch of the British Medical Association).

F. D. Adams, "Cabot and Adams Physical Diagnosis", Thirteenth Edition, 1942; H. A. Andrews, "Manual of Oxygen Therapy Technique", 1943; "Australian Mothercraft Book", Second Edition, 1942; Harold Avery, "Gastric and Duodenal Ulcers"; Hamilton Bailey, "Demonstration of Physical Signs in Clinical Surgery", Eighth Edition, 1942; Hamilton Bailey, "Surgery of Modern Warfare", Volumes I and II, Second Edition, 1942; Doris M. Baker, "Cardiac Symptoms in the Neuroses", 1942; G. E. Beaumont and E. C. Dodds, "Recent Advances in Medicine", Ninth Edition, 1939; C. H. Best and N. Burke-Taylor, "The Physiological Basis of Medical Practice", Third Edition, 1943; W. B. Blanton, "A Handbook of Allergy", First Edition, 1942; Charles Y. Bidgood, "Urology in War", 1942; J. Bostock and E. Jones, "The Nervous Soldier", 1943; Aleck W. Bourne and Leslie Williams, "Recent Advances in Obstetrics and Gynæcology", Fifth Edition, 1942; Agatha H. Bowley, "The Natural Development of the Child", 1942; W. Boyd, "Textbook of Pathology", Third Edition, 1938; C. Bramwell and J. T. King, "Principles and Practice of Cardiology", 1942; Brittain and Platt, "Architectural Principles in Arthrodesis", 1942; F. J. Browne, "Antenatal and Postnatal Care", 1942; E. T. Burke, "Venereal Diseases", 1940; E. T. Burke, "Modern Treatment of Venereal Diseases"; A. G. Butler, "The Australian Army Medical Services in the War, 1914-1918", Volume III; J. Grandson Byrne, "Studies of the Physiology of the Eye", 1933; Charles Byrne, "Proposal for the Future of Medical Practice", 1943; D. G. Carruthers, "Diseases of the Ear, Nose and Throat", 1943; Arturo Castiglioni, "A History of Medicine", 1941; Sir Raphael Cilento, "Tropical Diseases in Australasia", Second Edition, 1943; Frederick Christopher (Editor), "Transactions of the Ophthalmological Society of the United Kingdom", Volume LXII, "A Textbook of Surgery by American Authors", 1939; E. C. Claxton and Lucy Burdekin, "Weight Reduction, Diet and Dishes", Second Edition, 1941; Arthur Coca, "Food Allergy", First Edition, 1943; J. J. Conybeare (Editor), "Textbook of Medicine", Fifth Edition, 1940; N. Culpepper, "The English Physician Enlarged", 1770; S. H. Daukes, "The Medical Museum"; Kelly Dowell, "Roentgen Treatment of Infections", 1941; R. M. Downes, "Medical Ethics"; Duke-Elder, "Textbook of Ophthalmology", Volume III, 1940; Duke-Elder, "Practice of Refraction", Fourth Edition, 1943; E. M. Dunlop (Editor), "Textbook of Medical Treatment", Second Edition, 1942; N. L. Eckhoff, "Aids to Osteology", Fourth Edition, 1942; "Edinburgh Postgraduate Lectures", Volume II, 1940-1941 (Various Authors); R. S. Ellery, "Schizophrenia: The Cinderella of Psychiatry", 1941; E. D. Ewart, "A Guide to Anatomy", Fifth Edition, 1943; Pickworth Farrow, "A Practical Method of Self Analysis"; L. K. Ferguson, "Surgery of the Ambulatory Patient", 1942; D. Ferriman, "Acrocephaly and Acrocephalosyndactyly", 1941; R. A. Fisher, "Statistical Methods for Research Workers", 1941; A. B. Fitt, "Seasonal Influence on Growth, Function and Inheritance", 1941; S. Fomon, "Surgery of Injury and Plastic Repair", 1939; W. M. Gafafer (Editor), "Manual of Industrial Hygiene and Medical Service in War Industries", 1943; N. A. Gillespie, "Endotracheal Anæsthesia", 1941; John Glaister, "Medical Jurisprudence and Toxicology", 1938; K. Goldstein, "Aftereffects of Brain Injuries in War", 1942; C. E. M. Gunther, "Practical Malaria Control", 1942; John Guy and G. I. L. Linklater, "Hygiene for Nurses", 1943; Geoffrey Hadfield and L. P. Garrod, "Recent Advances in Pathology", Fourth Edition, 1942; I. Simon Hall, "Diseases of the Nose, Throat and Ear", Second Edition, 1941; A. W. Ham and M. D. Salter, "Doctor in the Making", 1943; I. Harris, "The Woof of Life", 1943; C. Langton Hewer, "Recent Advances in Anæsthesia and Analgesia", Fourth Edition, 1943; Arthur E. Hertzler, "The Horse and Buggy Doctor"; C. C. Higgins, "Renal Lithiasis", 1943; H. Hill and E. Dodsworth, "Food Inspection Notes", 1943; C. F. W. Illingworth, "A Short Textbook of Surgery", Third Edition, 1942; C. F. W. Illingworth, "Short Textbook of Surgical Treatment", 1943; Industrial Welfare Society, "Health Services in Industry"; N. R. James, "Regional Analgesia for Intra-abdominal Surgery", 1943; E. P. Joslin, "A Diabetic Manual", Seventh Edition, 1941; E. R. Jordon (Editor), "Standard Nomenclature of Disease and Standard Nomenclature of Operations", 1942; J. F. Kelly and D. A. Dowell, "Roentgen Treatment of Infections", 1942; Ladd and Gross, "Abdominal Surgery of Children", 1941; R. D. Lawrence, "The Diabetic Life and its Control by Diet and Insulin", Twelfth Edition, 1941; R. D. Lawrence, "The Diabetic ABC", 1940; Sir Thomas Lewis, "Diseases of the Heart", Second Edition; Sir Thomas Lewis, "Pain", 1942; Maurice Lewison and Ellis B. Frederick, "Manual of Physical Diagnosis with Special Consideration of the Heart and Lungs", 1941; Keith Lyle and Sylvia Jackson, "Practical Orthoptics in the Treatment of Squint", 1937; N. G. MacCallum, "Textbook of Pathology", 1941; Rodney Maingot, "Technique of Gastric Operations", 1941; Sir Philip Manson-Bahr, "The Dysenteric Disorders", 1943; "Memoranda on Medical Diseases in the Tropics", 1941; C. H. Mollison, "Forensic Medicine Lectures", 1941; Humphrey Neame and

Williamson-Nobel, "A Handbook of Ophthalmology", Fourth Edition, 1942; T. B. Nicholls, "The Army Medical Services in War", Second Edition, 1941; Lois Oakes, "Illustrations of Bandaging and First Aid", Second Edition, 1942; N. F. Ockerblad and H. E. Carlson, "Urology in General Practice", 1943; S. Ingleby Oddie, "Inquest: A Coroner Looks Back"; "Oxford Loose Leaf Supplements; Oxford War Manuals: "The Treatment of Shock" (R. W. Raven), "Amputation and Artificial Limbs" (Langdale-Kelham and Perkins), "The Early Treatment of War Wounds" (W. Anderson), "The Treatment of Burns" (A. B. Wallace); G. S. Parkinson, "A Synopsis of Hygiene", Seventh Edition, 1942; Napier Pearn, "Mental Nursing Simplified", Third Edition, 1942; A. Piney, "A Synopsis of Blood Diseases", 1942; R. H. A. Plimmer and Violet Plimmer, "Food, Health, Vitamins", Ninth Edition, 1942; Dorothy S. Price, "Tuberculosis in Childhood", 1942; "Queen Charlotte's Textbook of Obstetrics", Sixth Edition, 1943; E. Graeme Robertson, "Encephalography", 1941; Sir Humphry Rolleston (Editor), "The Practitioner" Booklets—"First Aid and the Medical Practitioner", "Minor Medicine", 1942, "Disorders of Blood Pressure", 1942; T. A. Ross, "Lectures on War Neuroses", 1941; G. F. Rowbotham, "Acute Injuries of the Head", 1942; Sir William Savage, "Practical Public Health Problems", 1941; G. C. Schauffler, "Pediatric Gynæcology", 1941; Wilfred Shaw, "Textbook of Gynæcology", Third Edition, 1941; J. Skládal, "The Pleuro-subpleural Zone", 1942; E. R. Stitt, Clough and Clough, "Practical Bacteriology, Hæmatology and Animal Parasitology", Ninth Edition, 1943; E. H. Stokes, "The Blood Cholesterol Content in Myxœdema and other Conditions", 1941; R. P. Strong, "Stitt's Diagnosis, Prevention and Treatment of Tropical Diseases", Volumes I and II, 1942; W. W. Spink, "Sulfanilamide and Related Compounds in General Practice", First Edition, 1941, and Second Edition, 1942; N. M. Tidy, "Massage and Remedial Exercises", Fifth Edition, 1941; "Transactions of American Ophthalmological Society", 1940 and 1942; T. a'B. Travers, "Concomitant Strabismus", 1936; Frank Trinca, "The Missing Link in Democracy", 1941; J. Trueta, "Treatment of War Wounds and Fractures", 1942; H. M. Vernon, "Health and Efficiency of Munition Workers", 1940; "Victorian Year Books", 1939-1940, 1940-1941; Walters, Gray and Priestly, "Carcinoma and other Malignant Lesions of the Stomach", 1942; F. M. R. Walshe, "Diseases of the Nervous System", 1940; O. H. Wangensteen, "Intestinal Obstruction", Second Edition, 1942; Lionel E. H. Whitby and C. H. C. Britton, "Disorders of the Blood", Fourth Edition, 1942; Clifford White, Comyns Berkeley and Frank Cook, "Diseases of Women", Seventh Edition, 1942; M. M. Wintrope, "Clinical Hematology", 1942; Leslie Williams, "Aids to Obstetrics", Eleventh Edition, 1942; G. S. Wilson, "The Pasteurisation of Milk", 1942; Eugene Woeff, "The Anatomy of the Eye and Orbit", 1940; Wood-Jones, "The Principles of Anatomy as seen in the Hand", 1941; R. Woolmer, "Anæsthetics Afloat", 1942; Sir Almroth E. Wright, "Researches from the Inoculation Department, St. Mary's Hospital, London. No. 1: Pathology and Treatment of War Wounds", 1942; year books of "Medicine", 1941, 1942 and 1943, "Surgery", 1941 and 1942, "Pædiatrics", 1941 and 1942, "Dermatology and Syphilology", 1941, 1942 and 1943; Henry Yellowlees, "Out of Working Hours—Psychology on Special Occasions, 1943"; H. H. Young, "Hugh Young: A Surgeon's Autobiography".

Post-Graduate Work.

COURSE IN GYNÆCOLOGY AND OBSTETRICS AT SYDNEY.

THE New South Wales Post-Graduate Committee in Medicine announces that with the cooperation of the honorary medical staff of the Royal Prince Alfred Hospital a course in gynæcology and obstetrics will be held at the King George V Memorial Hospital for Mothers and Babies, Camperdown, from July 10 to July 21, 1944. The programme is as follows:

Gynæcology.

Monday, July 10.

9.30 a.m.—Welcome by Chairman. Address by Sir Charles B. Blackburn.
11 a.m.—Leucorrhœa clinique: Dr. Muriel McIlrath.
2.30 p.m.—Demonstrations: "Ectopic Gestation", Dr. M. B. Fraser; "Endometriosis", Dr. McA. White.
4 p.m.—Pathology demonstration: "Ovarian Tumours Innocent and Malignant", Dr. F. A. Maguire.

Tuesday, July 11.

9.30 a.m.—Lecture demonstration: "Repair Work", Dr. H. H. Schlink.
11 a.m.—Operative demonstration: "Manchester", Dr. H. H. Schlink.
2.30 p.m.—Pathology demonstration of gynæcological specimens: Dr. M. Heseltine.
4 p.m.—Operative demonstration: "Total Hysterectomy", Dr. F. A. Maguire; "Myomectomy", Dr. M. B. Fraser.

Wednesday, July 12.

9.30 a.m.—Lecture demonstration: "Pelvic Inflammation", Dr. Clement Chapman.
11 a.m.—Sterility clinique: Dr. Frederick Chenhall.
2.30 p.m.—Demonstration: "Diseases Associated with Menopause", Dr. F. Chenhall; "Adnexal Tumours and Pregnancy", Dr. Muriel McIlrath.
4 p.m.—Pathology demonstration: "Inflammatory Lesions of Pelvis", Dr. C. Chapman.

Thursday, July 13.

9.30 a.m.—Lecture demonstration: "Endocrinology", "Metropathia Hæmorrhagica", Dr. F. A. Maguire.
11 a.m.—Operative demonstration: Dr. F. A. Maguire.
2.30 p.m.—"Pathology and Bacteriology of Post-Abortional Sepsis": Dr. M. Heseltine.
4 p.m.—"Anæsthesia in Gynæcology": Dr. W. I. T. Hotten.

Friday, July 14.

9.30 a.m.—Lecture demonstration: "Cancer of Uterus", Dr. H. H. Schlink and Dr. C. Chapman.
11 a.m.—Operative demonstration: "Hysterectomy with Enucleation", Dr. H. H. Schlink.
2.30 p.m.—Demonstration: Dr. McA. White (four cases).
3.30 p.m.—"Fibroids": Dr. M. B. Fraser.
4 p.m.—"Wertheim Radical Hysterectomy": Dr. C. Chapman.

Obstetrics.

Monday, July 17.

9.30 a.m.—"Ante-Natal": Professor Bruce Mayes.
11 a.m.—"Fibroids and Pregnancy": Dr. C. Chapman.
2.30 p.m.—"Toxæmias and their Follow-up": Dr. R. F. Back.
4 p.m.—"Lower Segment Cæsarean Section": Professor Mayes.

Tuesday, July 18.

9.30 a.m.—"Toxæmias": Dr. H. A. Ridler.
11 a.m.—"Hæmorrhages": Dr. B. Williams.
2.30 p.m.—"Radiology in Obstetrics", Dr. G. Maitland.
4 p.m.—"Fœtal Pathology": Dr. M. Heseltine.

Wednesday, July 19.

9.30 a.m.—"Sepsis": Dr. J. Chesterman.
11 a.m.—"Icterus Gravis Neonatorum": Dr. Kathleen Winning.
2.30 p.m.—"Vitamin Deficiency in Infants and Congenital Hearts": Dr. Norman Cunningham.
4 p.m.—"Breech Presentation": Professor B. Mayes.

Thursday, July 20.

9.30 a.m.—"Drugs in Obstetrics": Dr. B. Williams.
11 a.m.—"Rh Factor in Obstetrics": Dr. John Chesterman.
2.30 p.m.—"Induction of Labour": Professor B. Mayes.
4 p.m.—Case demonstration: Dr. Margaret Mulvey.

Friday, July 21.

9.30 a.m.—"Medical Complications of Pregnancy": Dr. H. A. Ridler.
11 a.m.—"Post-Natal Hygiene": Dr. Muriel McIlrath.
2.30 p.m.—"Feeding of Premature Infants": Dr. Kathleen Winning.
4 p.m.—"Obstetrical Pathology": Dr. Mary Heseltine.

On Monday, July 17, Professor Bruce Mayes takes the full class. On all other days the classes are halved.

One-half of the class will take gynæcology the first week and obstetrics the second, and the times will be reversed for the second half of the class.

The fee for the course will be £5 5s.; £2 12s. 6d. per week will be charged for board and residence at the hospital. Registration for the course will be limited to twelve persons. Applications for registration, accompanied by a remittance for the amount of the fee and the amounts for board and residence, if required, should be made to the Secretary, New South Wales Post-Graduate Committee in Medicine, 145, Macquarie Street, Sydney.

The Royal Australasian College of Physicians.

EXAMINATION FOR MEMBERSHIP.

AN examination for membership of the Royal Australasian College of Physicians will be held in August and September, 1944. The written examination will be held in capital cities where candidates are offering and the clinical examination will be held in Sydney and Melbourne, provided a sufficient number of candidates is offering in both places.

The dates fixed for the examination are as follow:

Written examination: Saturday, August 19, 1944.

Clinical examination in Sydney: Commences Friday, September 15, 1944, and concludes not later than Tuesday, September 19, 1944.

Clinical examination in Melbourne: Commences Wednesday, September 20, 1944, and concludes not later than Thursday, September 21, 1944.

Applications to appear before the Board of Censors should be made in the prescribed form and must be in the hands of the Honorary Secretary of the College not later than Saturday, July 15, 1944.

Application forms are obtainable from the Honorary Secretary, 145 Macquarie Street, Sydney.

Candidates at present serving in the forces should signify whether they wish to take the clinical examination in Sydney or in Melbourne.

Correspondence.

THE NUTRITIVE VALUE OF ICE CREAM.

SIR: I have received the following information from one of my colleagues, who is an authority on nutrition, and in view of the commercial claims made for the nutritive value of ice cream, it is thought to be of public interest to state the analysis of the nutrients in ice cream as compared with an equal volume of fresh whole milk.

	Milk (One Quart).	Ice Cream (One Quart).
Retail price ..	Ninepence	Eight shillings in 3½d. buckets
Protein	33·6 grammes	23 grammes
Calories	662	1,200
Calcium	1·15 grammes	0·78 gramme
Phosphorus ..	0·86 gramme	0·6 gramme
Iron	1·9 milligrammes	1·8 milligrammes
Vitamin *A*	1,748 int. units	2,034 int. units
Vitamin *B* thiamin	0·52 milligramme	0·24 milligramme
Vitamin *B* riboflavin	2·11 milligrammes	0·66 milligramme
Vitamin *B* niacin	0·77 milligramme	0·24 milligramme
Vitamin *C* Ascorbic acid	20·64 milligrammes	7·2 milligrammes

It will be seen that, of the ten basic nutrient factors, ice cream is of lower value in eight and of higher value in two.

The higher calorie value is due in part to the 16% (by weight) of added cane sugar, and the higher value in vitamin *A* is due to the legal minimum standard of 10% milk fat (by weight) compared with an average of 3·5% in whole milk. This present higher vitamin *A* value of ice cream will be reduced below that of whole milk should the proposed reduction of butter fat standard for ice cream be effected. Calories will, however, remain a slightly higher value owing to the admixture of cane sugar. Ice cream may contain up to 0·15% of gelatine, but does not usually contain eggs.

The total milk production in Australia is at present insufficient to satisfy the nutritional needs of all those for whom Australia is responsible. The "vulnerable groups" (the expectant and nursing mothers, the pre-school child, the school child and the adolescent) cannot at present receive the milk required to satisfy their needs. Of the total Australian milk production, 3·4% is at present diverted to ice cream manufacture.

The tenfold increase in the retail selling price of ice cream as compared with milk, presents a serious economic barrier against the effective utilization of the limited nutrient values of ice cream as a source of essential nutrients for the vulnerable groups.

Yours, etc.,

L. P. WINTERBOTHAM.

Ipswich Road,
Annerley, S.3,
Brisbane.
May 12, 1944.

WHEAT BREAKFAST FOODS.

SIR: Your sub-leader (page 325)[1] of your issue of April 8, 1944, under the above heading would have presented a more balanced review of modern knowledge of the subject if the published analyses of Australian ready-to-eat breakfast foods had been considered. These have been published in the report of the Nutrition Committee of the National Health and Medical Research Council for 1941, and also in your issue of September 12, 1942.[1]

These analyses show an average thiamin content of 0·35 microgramme per gramme for nine widely advertised Australian ready-to-eat breakfast foods. The range was from 0·11 to 0·90. These foods were made mainly from wheat, but one was made from rice and one from corn. If the average figure for such a variety of wholegrains be taken as 5·2 microgrammes per gramme, it will be seen that there is an average percentage destruction of 94·7% of thiamin in the factory preparation. Compare this with the same authors' finding of the loss of less than 5% of the thiamin in rolled oats when boiled for forty-five minutes on an electric hot plate. This finding is borne out by other workers who find an insignificant loss in a double saucepan after two hours' boiling.

Thiamin is the most difficult of all nutrients to build up in the daily intake to the National Research Council's standard of 1·8 milligrammes per day for a moderately active man weighing 70 kilograms. For the higher needs of some of the "vulnerable" groups this difficulty is accentuated.

The substitution of ready-to-eat cereals for home-cooked oatmeal or wheatmeal seriously complicates this problem, as well as intensifying the economic problems of nutrition.

Yours, etc.,

L. P. WINTERBOTHAM,
President, British Medical Association (Queensland Branch).

Ipswich Road,
Annerley, S.3,
Brisbane.
May 13, 1944.

PREVENTIVE MEDICINE.

SIR: Whilst agreeing in general with Dr. Willcocks's address on preventive medicine, I take the view based on experience that the large hospital is outmoded except in special places and for special service. The general practitioner is the high priest of preventive medicine, and in the country cannot send his patients great distances to obtain ordinary medical advice.

In the Victorian Bush Nursing Association we find an intense desire on the part of the country people to have hospital, doctor and nurse near their own homes. A very small number must be sent to large centres, but the medical care of the majority is effected by the small local hospital. The intimate contact of doctor and patient counts for much.

There are in Victoria 67 Bush Nursing hospitals, and apart from building hospitals taken over during the war we have applications for building fourteen new ones.

It is the local desire to own the hospital and, subject to our general rules, manage it themselves which has become intense. All the committees of management contain the local doctor or doctors, and this has proved a powerful factor in sensible administration. There are here and there large hospitals and yet close to them residents prefer the Bush Nursing hospitals and pay for them. It is the decentralization which means so much.

With Dr. Willcocks I can see no advantage in free medicine or free State medical service except in some remote places. As he indicates, Sweden has learnt that some contributory

[1] E. C. Slater and Joan Rial: "The Thiamin (Vitamin B_1) Content of some Australian Biscuits and Breakfast Foods", THE MEDICAL JOURNAL OF AUSTRALIA, September 12, 1942, page 231.

system is an asset. In the Victorian Bush Nursing Association we learnt that long ago the hand-out theory does not work as people thought it would.

Yours, etc.,

JAMES W. BARRETT.

103-105, Collins Street,
Melbourne, C.1,
May 16, 1944.

SIR: With reference to Dr. Grahame Drew's letter of the eleventh instant, I regret that a typographical error in my presidential address has caused offence to the public health officers.

In preparing my address I wrote: "What is preventive medicine? Some think of it as the preventive medicine of 100 years ago, Public Health Officers, the control of infectious disease, and drains." This was altered by the typist, to whom I sent my address for copying, to "some think of it as the preventive medicine of 100 years ago. Public Health Officers think of it as the control of infectious disease and drains".

You will see that the meaning is entirely altered by substituting a full stop for a comma and inserting the words "think of it". What I said in my address and what I actually wrote could cause offence to none, but the altered wording is definitely offensive.

I apologise to the public health officers, and to you as Editor, for this error, which I should have noticed when reading the proof. Unfortunately, pressure of work, and that boredom with one's own writings which comes over one after the fourth and fifth revision, caused me to overlook the error.

I hope that the public health officers and yourself will believe that I neither thought, said nor wrote the words which caused offence. I realize, of course, that it is entirely my fault for not detecting the error in the typescript nor in the proof.

Yours, etc.,

G. WILLCOCKS.

143, Macquarie Street,
Sydney,
May 22, 1944.

NON-PREVENTIVE MEDICINE.

SIR: Overcivilization has advanced man's comfort, but not, in all respects, his health. Upper respiratory tract infection is certainly the most potent cause of absenteeism at the present time, and is largely preventible but not prevented. We extol the virtue of fresh air and the open window. Modern civilization decrees that doors and windows be closed in practically all large offices and places of entertainment, and in place of ventilation we have, too often, a fœtid, warm and moist atmosphere. I admit I am prejudiced and will not be convinced by air-conditioning experts that such an atmosphere is in the best interests of the health of those who have to work in or who frequent such places. What I think would be convincing and enlightening would be bacteriological examination of the air for a distance of some feet in front of persons who cough or sneeze when suffering from an attack of acute coryza or who cough when being the subject of open tuberculosis. In such test the time factor would be of great importance. Perhaps the disciples of modern preventive medicine have the answer. At present I remain prejudiced.

Yours, etc.,

ALEX. A. LANG.

Willoughby,
New South Wales,
May 19, 1944.

FREEDOM OF CHOICE OF DOCTOR.

SIR: I have noticed the curious insistence of the profession on the freedom of choice of doctor by patients. Just how much freedom of choice is allowed the poor folk who inhabit our public hospitals? They are deposited first with one doctor and then with another until finally they have an enormous dossier and nobody knows what it all means. They receive no true treatment at all, as no one is interested in them.

If there is to be freedom of choice it must be for all patients, rich or poor. If there is to be no freedom of choice it must be denied to all.

The pernicious honorary system of staffing hospitals must go. It is the worst type of charity, as it is incompetent and condescending. The poor have as much right to choose their medical attendants as the well-to-do. If they cannot pay, the State must pay, or better still, improve their economic status to enable them to pay.

Finally, the general practitioner must be allowed to treat the poor in public hospitals just as he can treat his other patients in private hospitals. This would be better for both doctor and patient. It would enable continuity of treatment.

Yours, etc.,

F. W. SIMPSON.

170, St. George's Terrace,
Perth,
May 17, 1944.

PENICILLIN.

SIR: I read with interest your recent current comment on the use of penicillin. I was struck by the fact that 75% of the drug is said to be found in the urine of patients under treatment within a very short time of administration.

In view of the cost of this drug, may I venture to suggest that it might be found practicable to recover it from the urine at less cost than initial manufacture, and thus be used again?

I am sure that if this can be found to be the case, that institutions using it would cooperate and collect the necessary specimens.

Yours, etc.,

K. MELVILLE KELLY.

174, Macquarie Street,
Hobart,
May 20, 1944.

THE FEE PRINCIPLE AND MEDICAL ORGANIZATION.

SIR: The article on the fee principle and medical organization by my friend, Dr. A. E. Brown, is an interesting though somewhat enigmatic contribution to medical sociology. If one has read his article aright, Dr. Brown has in mind some form of medical service in which "the fee principle with its building up of assets and a vested interest in individual security should be abandoned. . . ."

The form of medical service that would result from such abandonment is by no means clear. Dr. Brown has depicted for us many true-to-life vignettes on a very broad canvas, but the picture as a whole is to me somewhat confusing.

As stated in the article, the whole matter readily divides itself into two main parts, "manner of payment" and "quality and availability of service".

Now under present conditions of practice methods of payment to private practitioners include: (*a*) fee for service, (*b*) capitation fee, (*c*) some form of insurance. This system regarded purely as a method of payment on the whole works well. It provides a simple method of exchange for all but two sections of the community—(*a*) the poor, who need but cannot pay for domiciliary service, and (*b*) the middle class, who cannot afford private hospitals and specialist fees, but desire the privacy of such service.

Many think that greater efforts should have been made on behalf of these people, and such neglect has been used as an argument in favour of a State health service. Be this as it may, the average private practitioner probably feels that until such time as the economic conditions of our life alter considerably, social experiments should not be applied to the medical profession alone.

Furthermore, it is felt that socialization is more necessary in the case of food, housing *et cetera* as integral parts of the "Four Freedoms".

Coming to the question of the quality and availability of services, Dr. Brown will no doubt find more supporters for his ideas than for those on the matter of payment.

To put this aspect of the question briefly, it may be said that private practice must combine the advantages of individualism and of collectivism. While it is essential that individualism should be fostered, it must be remembered that there are times when a doctor working single-handed in his surgery and elsewhere may not be serving the best interests of his patient. Cooperation in private practice is an urgent necessity.

If the practising profession in private practice does not give to the public the advantages that accrue from such cooperation, the State will. Would the State be doing wrong?

If events in Australia follow a similar course to those in Great Britain, as evidenced by the White Paper on the future of the medical services, we shall have in all probability private practice and a comprehensive State health service;

the evolution of the two services will be merely a phase of the age-old process of "survival of the fittest".

Yours, etc.,

639, Sandgate Road, Clayfield, Brisbane.
May 23, 1944.

E. S. MEYERS.

Australian Medical Board Proceedings.

NEW SOUTH WALES.

THE undermentioned have been registered as legally qualified medical practitioners:

O'Loughlin, Irene May, M.B., B.S., 1938 (Univ. Adelaide), Prince Henry Hospital, Little Bay.

Abbey, Roxie Isabel, M.B., B.S., 1941 (Univ. Melbourne), Hotel Manly, Manly.

Whight, Gladys Marie Saunders, M.B., B.S., 1939 (Univ. Melbourne), St. Mark's Rectory, Tarcutta.

The following additional qualification has been registered:

Henchman, David Crosborough, Newcastle Hospital (M.B., 1943, Univ. Sydney), B.S., 1943 (Univ. Sydney).

Medical Appointments.

Dr. Hugh Gilmour Wallace has been appointed a member of the Board of Health, New South Wales.

Dr. John Hughes has been appointed Deputy Director, Division of Tuberculosis, Department of Public Health, New South Wales (alteration of designation).

Dr. C. L. Park has been appointed a member of the State Medical Coordination Committee, Western Australia, in pursuance of Regulation 8 of the National Security (Medical Co-ordination and Equipment) Regulations.

Dr. J. G. B. Muir has been appointed a member of the State Medical Coordination Committee, Tasmania, in pursuance of Regulation 8 of the National Security (Medical Co-ordination and Equipment) Regulations.

Dr. W. K. McIntyre has been appointed a member of the Medical Council of Tasmania under the provisions of *The Medical Act*, 1918.

Dr. William Christie has been appointed Principal Medical Officer of the Advisory Council of Education, South Australia.

Professor Sydney Sunderland has been appointed a member of the Zoological Board of Victoria.

Obituary.

ARTHUR JOSEPH MACKENZIE.

WE regret to announce the death of Dr. Arthur Joseph Mackenzie, which occurred on May 23, 1944, at Glen Innes, New South Wales.

CLIVE NIGEL SMITH.

WE regret to announce the death of Dr. Clive Nigel Smith, which occurred on May 27, 1944, at Sydney.

Books Received.

"Surgical Nursing and After-Treatment: A Handbook for Nurses and Others", by H. C. Rutherford Darling, M.D., M.S. (London), F.R.C.S. (England), F.R.F.P.S. (Glasgow); Eighth Edition; 1944. London: J. and A. Churchill, Limited. 7¼" × 4¾", pp. 696, with many illustrations.

"The Vascular Abnormalities and Tumours of the Spinal Cord and its Membranes", by Roger Wyburn-Mason, M.A., M.D., B.Chir. (Cantab.), M.R.C.P. (London), M.R.C.S. (England); with a foreword by Gordon Holmes, C.M.G., C.B.E., F.R.S., Sc.D., M.D., F.R.C.P., *et cetera*; 1943. London: Henry Kimpton. 9¾" × 6", pp. 203, with illustrations. Price: 18s. net.

"The 1943 Year Book of General Medicine", edited by George F. Dick, J. Burns Amberson, George R. Minot, William B. Castle, William D. Stroud and George B. Eusterman; 1943. Chicago: The Year Book Publishers, Incorporated. 7" × 4¾", pp. 784, with illustrations. Price: $3.00.

Diary for the Month.

JUNE 6.—New South Wales Branch, B.M.A.: Organization and Science Committee.
JUNE 7.—Victorian Branch, B.M.A.: Branch Meeting.
JUNE 7.—Western Australian Branch, B.M.A.: Council Meeting.
JUNE 9.—Queensland Branch, B.M.A.: Council Meeting.
JUNE 9.—Victorian Branch, B.M.A.: Legislative Subcommittee.
JUNE 13.—New South Wales Branch, B.M.A.: Executive and Finance Committee.
JUNE 13.—Tasmanian Branch, B.M.A.: Branch Meeting.
JUNE 16.—Victorian Branch, B.M.A.: Ethics Subcommittee.
JUNE 19.—Victorian Branch, B.M.A.: Hospital Subcommittee.
JUNE 19.—Victorian Branch, B.M.A.: Finance Subcommittee.
JUNE 20.—New South Wales Branch, B.M.A.: Medical Politics Committee.
JUNE 20.—Victorian Branch, B.M.A.: Organization Subcommittee.
JUNE 21.—Western Australian Branch, B.M.A.: Branch Meeting.
JUNE 22.—New South Wales Branch, B.M.A.: Clinical Meeting.
JUNE 22.—Victorian Branch, B.M.A.: Executive Meeting.
JUNE 23.—Queensland Branch, B.M.A.: Council Meeting.
JUNE 27.—New South Wales Branch, B.M.A.: Ethics Committee.
JUNE 28.—Victorian Branch, B.M.A.: Council Meeting.
JUNE 29.—New South Wales Branch, B.M.A.: Branch Meeting.

Medical Appointments: Important Notice.

MEDICAL PRACTITIONERS are requested not to apply for any appointment mentioned below without having first communicated with the Honorary Secretary of the Branch concerned, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C.1.

New South Wales Branch (Honorary Secretary, 135, Macquarie Street, Sydney): Australian Natives' Association; Ashfield and District United Friendly Societies' Dispensary; Balmain United Friendly Societies' Dispensary; Leichhardt and Petersham United Friendly Societies' Dispensary; Manchester Unity Medical and Dispensing Institute, Oxford Street, Sydney; North Sydney Friendly Societies' Dispensary Limited; People's Prudential Assurance Company Limited; Phœnix Mutual Provident Society.

Victorian Branch (Honorary Secretary, Medical Society Hall, East Melbourne): Associated Medical Services Limited; all Institutes or Medical Dispensaries; Australian Prudential Association, Proprietary, Limited; Federated Mutual Medical Benefit Society; Mutual National Provident Club; National Provident Association; Hospital or other appointments outside Victoria.

Queensland Branch (Honorary Secretary, B.M.A. House, 225, Wickham Terrace, Brisbane, B.17): Brisbane Associated Friendly Societies' Medical Institute; Bundaberg Medical Institute. Members accepting LODGE appointments and those desiring to accept appointments to any COUNTRY HOSPITAL or position outside Australia are advised, in their own interests, to submit a copy of their Agreement to the Council before signing.

South Australian Branch (Honorary Secretary, 178, North Terrace, Adelaide): All Lodge appointments in South Australia; all Contract Practice appointments in South Australia.

Western Australian Branch (Honorary Secretary, 205, Saint George's Terrace, Perth): Wiluna Hospital; all Contract Practice appointments in Western Australia.

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